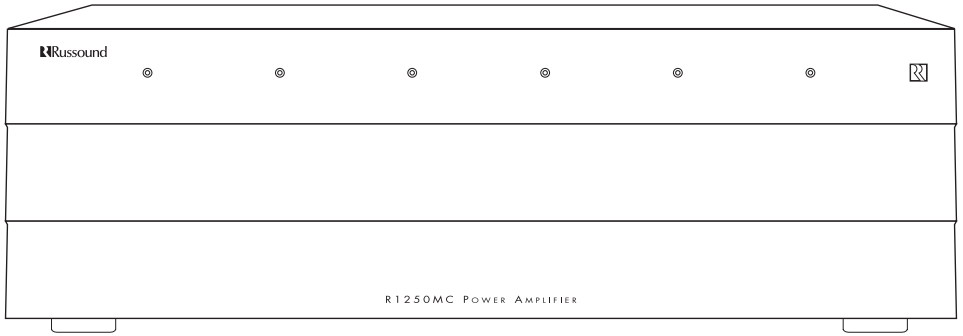
Russound

A/V DISTRIBUTION & CONTROL SYSTEMS

R1250MC SERVICE MANUAL

Confidentiality Statement

Russound®



R1250MC

6-Zone, 12-Channel Power Amplifier

Installation Manual

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Safety Instructions

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the appliance in the operating instructions should be adhered to.
4. Follow Instructions - All operating and user instructions should be followed.
5. Water and Moisture - The appliance should not be used near water; for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus. Do not touch the appliance with wet hands. Do not handle the appliance or power cord with wet or damp hands. If water or any other liquid enters the appliance cabinet, take it to qualified service personnel for inspection.
6. Cleaning - The appliance should be cleaned only as recommended by the manufacturer. From time to time you should wipe off the front and side panels and the cabinet with a soft cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since this may damage the finish or remove the panel lettering.
7. Ventilation - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings. Place the unit in a well-ventilated location, leaving at least 2 inches (5 cm) of clearance on all sides, top and rear of unit for air flow. If ventilation is blocked, the unit may overheat and malfunction.
8. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
9. Grounding or Polarization - Precaution should be taken so that the grounding or polarization means of an appliance is not defeated.
10. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, receptacles, and the point where they exit from the appliance.
11. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
12. Main Power Disconnect - The power switch is a single-pole switch. When the switch is in the "Off" position, the appliance is not completely disconnected from the main power. The main power plug is used as the disconnect device and shall remain readily operable. When installing the product, ensure that the plug is easily accessible.
13. Non-Use Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
14. Attachments - Only use attachments/accessories specified by the manufacturer.
15. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.

16. Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
17. Location of the Amplifier - Do not mount this unit under a kitchen cabinet. Do not expose the amplifier to direct sun light or heating units as the amplifier internal components' temperature may rise and shorten the life of the components. Avoid damp and dusty places.
18. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.
19. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
20. Damage Requiring Service - The appliance should be serviced by qualified service personnel when: A. The power supply cord or the plug has been damaged; B. Objects have fallen, liquid has been spilled into the appliance; C. The appliance has been exposed to rain; or D. The appliance does not appear to operate normally; or E. The appliance has been dropped or the enclosure is damaged.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of or more of the following measures: reorient or relocate the receiving antenna; increase the separation between the equipment and receiver; connect the equipment into an outlet on a circuit different from that to which the receiver is connected, or consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Introduction

The Russound R1250MC is a 12-channel power amplifier and is ideal for use as the main amplifier in home theater and distributed audio systems. The 12 channels are arranged in pairs to provide amplification for six stereo zones. The R1250MC provides an array of useful features such as bridge mode operation, independent zone triggering, bus inputs and multiple speaker outputs per zone to meet a wide variety of applications and configurations.

The R1250MC is rated at 50 watts per channel into 8 ohms and 80 watts per channel into 4 ohms. With the Stereo/Bridge Mono switch in the Bridged Mono position, both channels in the zone are combined for a higher powered mono output. In bridged mode, the R1250MC is rated at 140 watts of power into a single 8 ohm load. All this power is backed by three high output torodial transformers. Each amplifier output channel incorporates robust protection circuitry for safety and reliability under extreme circumstances.

Thermal Protection

All Russound amplifiers are designed with special circuitry to safeguard the amplifier under a thermal overload condition. Thermal protection mode can only engage when the unit has been run at high volume for extended periods of time without adequate ventilation and/or when speaker impedances are below the minimum levels for the amplifier. If this fault occurs, turn off the amplifier, and check that the speaker impedance rating is above the minimum rating. Also check for adequate ventilation around the amplifier and make adjustments if necessary.

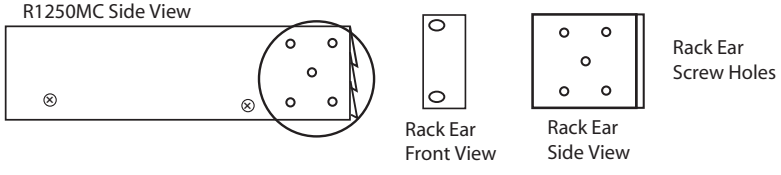
Once the unit has cooled to safe operating temperatures, the amplifier may be powered back on.

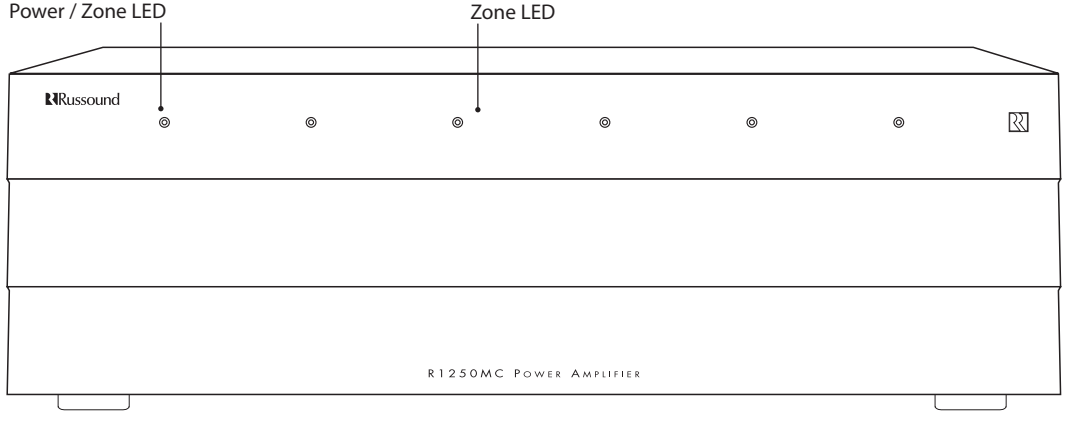
Protection Circuitry

All Russound amplifiers are designed with special circuitry to safeguard the amplifier under a short-circuit condition. A faulty speaker can also cause a short circuit condition. The front panel LED illuminates orange when the amplifier is in short circuit protection. If this fault condition occurs, turn off the amplifier and check speakers for short circuit conditions when appropriate.

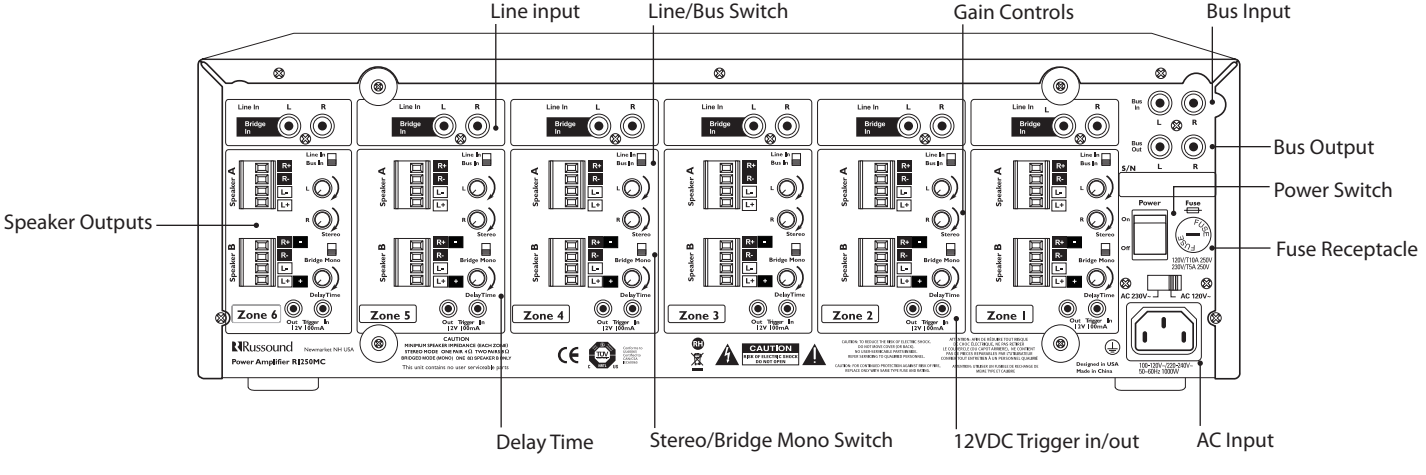
Rack Mounting

The R1250MC amplifier can be rack mounted using the included rack-mount ears and hardware to attach the ears to the amplifier. The amplifier will take three rack spaces with the feet removed.





R1250MC Front Panel



R1250MC Rear Panel

Power LED

On start-up, the first LED lights red to show power on. When the first zone is turned on, the LED lights green.

Zone LED

On start-up, zone LEDs are off (except Zone 1). When each zone powers on, the corresponding LED lights green. When at least one zone is on, the rest of the zone LEDs are red to show they are in standby mode. If a short circuit happens on the speaker outputs, the LED will light amber.

Bus Input/Output

The bus line input is an optional input that can be used to connect a single source to multiple zones. The bus line output is a passive passthrough of the bus input and can be used to daisy chain the source to other amplifiers in the system.

Line Input

The line audio input for each zone is a dedicated sensing input that will activate the zone when an audio signal from a source is present.

Line/Bus Switch

Sets the zone input to the Line Input or the Bus Input.

Speaker Outputs

The A and B speaker outputs are in parallel to the zone amplifier output. The minimum speaker impedance for stereo mode operation is 4 ohms for one pair and 8 ohms for two pairs of speakers. The minimum impedance for bridged mode operation is 8 ohms, Speaker B only.

Gain Controls

Left and Right gain controls independently adjust the sound level for each channel. When used in the bridged mode only the Left control is used.

Power Switch

Turns the amplifier on/off. This switch does not disconnect the main power feed from the amplifier; this requires that the power cord be unplugged from the outlet.

Fuse Receptacle

Holds a replaceable fuse for AC power input connection. Fuse rating for North America is T10AL 250V and for Europe is T5AL 250V.

AC Input / Voltage Switch

Voltage is set with a selectable switch for 110V or 240V operation. The AC voltage input for the North American model is 120VAC at 60Hz (European model, 230VAC at 50Hz). This receptacle accepts a 3-prong IEC 320 type connector. A detachable 3- terminal power cord is included.

12VDC Trigger In/Out

The 12V Trigger In is used to activate the zone. The Trigger Out provides 100mA 12V max. This can be used to drive other 12V triggered devices. The delay and audio sensing are bypassed when the 12V trigger input is used.

Delay Time

Muting delay can be adjusted from about 0.5 minute to 4.5 minutes. When an audio signal is not present, the amplifier will automatically go into standby mode after the preset period of time.

Standby Mode

The amplifier will go into Standby mode when no audio signal or trigger is present, and after the minimum delay time has timed out. The amplifier will go into a 0.5 Watt or less standby power mode.

Stereo/Bridge Mono Switch

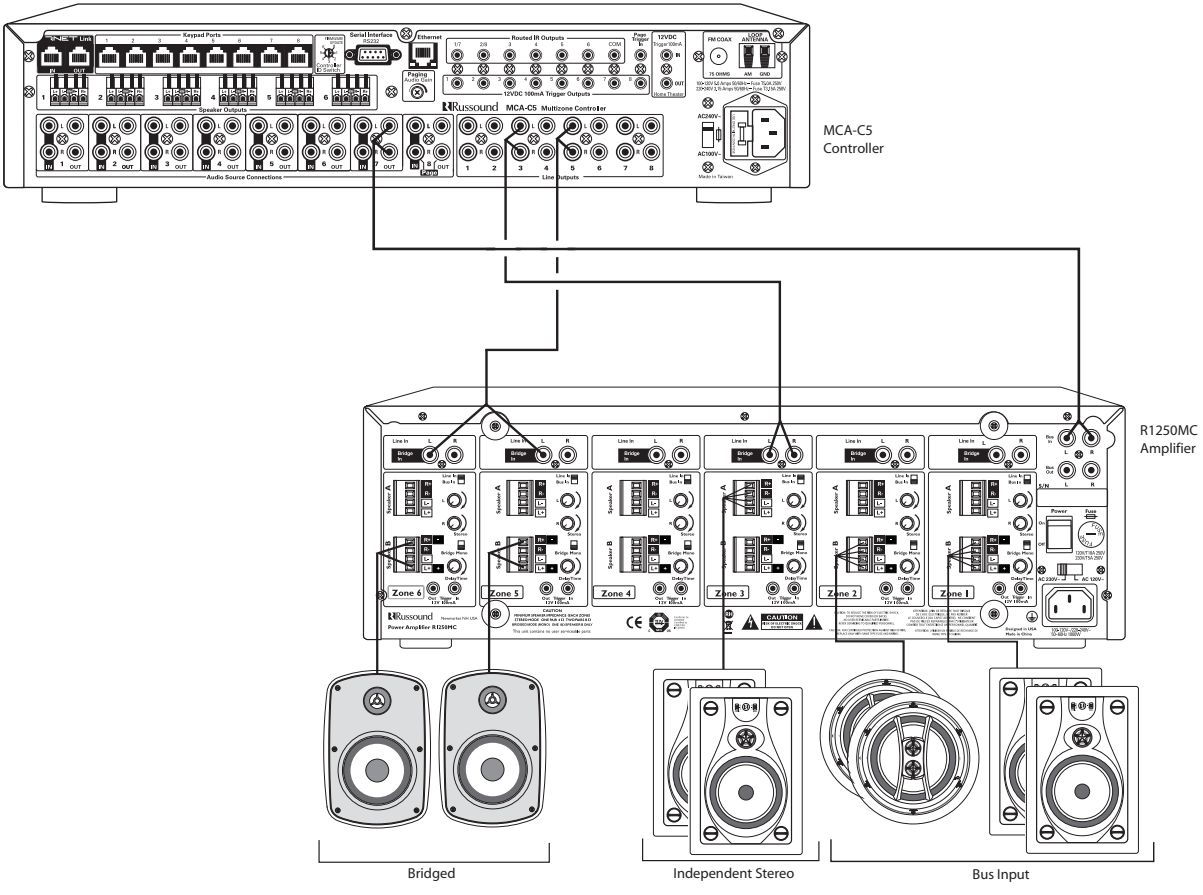
Sets each zone amplifier for stereo or bridged mono operation.

TYPICAL SYSTEM CONFIGURATION

The R1250MC can be configured as the main amplifier for an audio distribution system or home theater system.

When used with an audio distribution preamp, each zone can independently drive one of several different sources by using each zone's individual line audio inputs, or a pair of zones can be bridged to create a higher powered zone.

When the R1250MC is used as a home theater amplifier, three zones can be bridged to provide high power for the front and center channels and the remaining zone can be used for the surround effects.

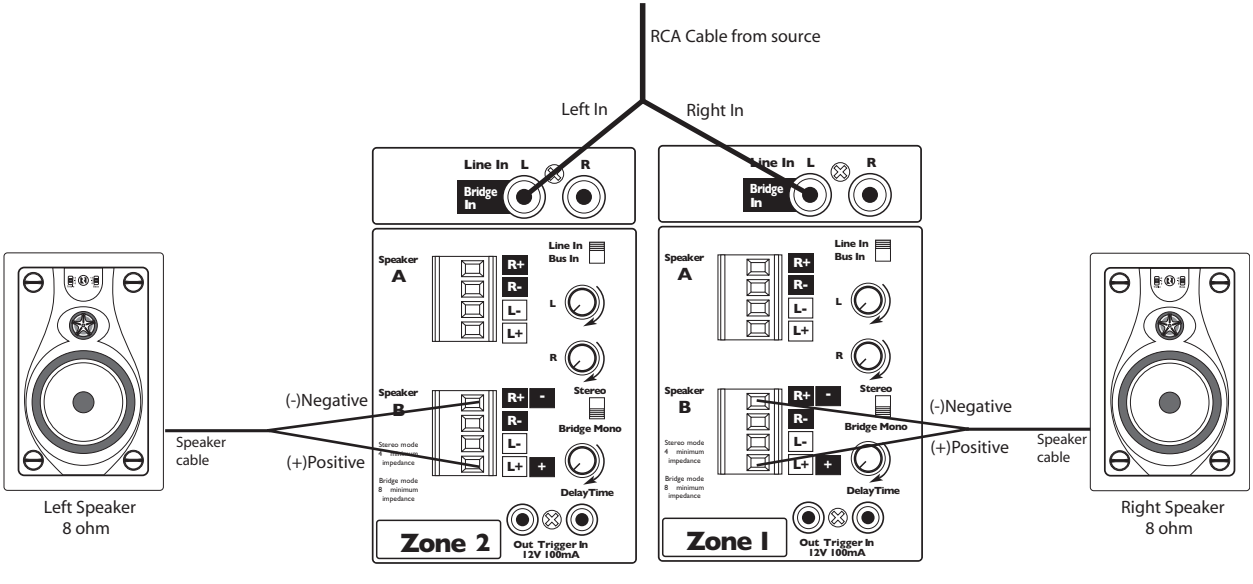


Connections for audio distribution preamp outputs

When the amplifier is in Bridged mode operation, both the left and right channels are combined for a higher power mono output.

For bridged amplifier operation, turn off the power to the amplifier and connect an 8-ohm minimum load to the Speaker B output.

Following the Bridge mode markings in red on the back of the amplifier: Connect the negative lead (-) of the speaker cable to the R+ terminal. Connect the positive lead (+) of the speaker cable to the L+ terminal. Set the Stereo/ Bridge Mono switch to Bridge Mono, connect the Line In feed from a source to the Left Line In connection and restore power to the amplifier.



Connections for bridged mode operation

TECHNICAL SPECIFICATIONS

R1250MC Amplifier

Single Zone Maximum Output Power:	50W per channel, 2 channels at 8 ohms
	(0.1% THD+N; f=1 kHz) 80W per channel, 2 channels at 4 ohms
	140W at 8 ohms, 2 channels bridged
All Zones Continuous Output Power:	35W per channel, 12 channels at 8 ohms
	50W per channel, 12 channels at 4 ohms
	100W at 8 ohms, each zone bridged
Distortion THD+N	<0.05% 8 Ohm, from 20Hz to 20kHz
Signal-to-Noise Ratio:	>100dB
Frequency Response:	20Hz to 20KHz +/- 0.3dB
Input Sensitivity:	70mV for 1W at 8 ohms 500mV for 50W at 8 ohms
Input Impedance:	47kohms Line Input
Voltage Gain:	32dB
Delay Time:	0.5 to 4.5 minutes
Input Trigger:	12VDC 10 kohms
Output Trigger:	12VDC 100 mA
Power Requirements:	***North American Model:*** 100-120VAC 60Hz 1000W
	IEC 320 type connector with 3 terminal detachable power cord.
Fuse Rating:	T10AL 250V
Power Requirements:	***European Model:*** 220-240VAC 50Hz 1000W
	IEC 320 type connector with 3 terminal detachable power cord.
Fuse Rating:	T5AL 250V
Standby Power:	≤ 0.5 W
Dimensions:	17" W x 16.5"D x 5.875"H (43 x 42 x 15 cm)
Weight:	35.05 lbs. (15.77 kg)

The R1250MC Amplifier meets EU Standby Power Requirements

Warranty

The Russound R1250MC Amplifier is fully guaranteed against all defects in materials and workmanship for two (2) years from the date of purchase. During this period, Russound will replace any defective parts and correct any defect in workmanship without charge for either parts or labor.

For this warranty to apply, the unit must be installed and used according to its written instructions. If service is necessary, it must be performed by Russound. The unit must be returned to Russound at the owner's expense and with prior written permission. Accidental damage and shipping damage are not considered defects, nor is damage resulting from abuse or from servicing by an agency or person not specifically authorized in writing by Russound.

This Warranty does not cover:

- Damage caused by abuse, accident, misuse, negligence, or improper installation or operation
- Power surges and lightning strikes
- Normal wear and maintenance
- Products that have been altered or modified
- Any product whose identifying number, decal, serial number, etc. has been altered, defaced or removed.

Russound sells products only through authorized Dealers and Distributors to ensure that customers obtain proper support and service. Any Russound product purchased from an unauthorized dealer or other source, including retailers, mail order sellers and online sellers will not be honored or serviced under existing Russound warranty policy. Any sale of products by an unauthorized source or other manner not authorized by Russound shall void the warranty on the applicable product.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis of the retail value of the parts and labor. To return for repairs, the unit must be shipped to Russound at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the unit in a corrugated container with at least three (3) inches of resilient material to protect the unit from damage in transit.

Before returning a unit for repair, call Russound at (603) 659-5170 for a Return Authorization number. Write this number on the shipping label and ship to:

Russound
ATTN: Service
5 Forbes Road
Newmarket, NH 03857

Due to continual efforts to improve product quality as new technology and techniques become available, Russound/FMP, Inc. reserves the right to revise system specifications without notice.

R1250MC

6-Zone, 12-Channel Power Amplifier
Installation Manual

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email: tech@russound.com www.russound.com

28-1168 Rev. 3 07/28/10

R850MC & R1250MC
Test Procedure

The purpose of this Test Procedure is to instruct both the Russound Test Department and any outside Service Technician as well.

Equipment Needed:

R850MC or an R1250MC
Instruction Manual for Amplifier being tested
CD player
Speakers
Trigger Test LED (A red LED with a 1K Ohm resistor soldered to a 1/8" phone Jack.)
12V power supply (Russound 1201A)

Inspection:

Inspect sheet metal for scratches.
Inspect screening on unit (both front and rear).
Inspect packaging and contents.

Test Setup:

On all Zones:

1) Adjust **Left** and **Right gain** controls fully counter clockwise.
2) Set the **Stereo/ Bridge Mono** slide switch to the **Stereo** position.
3) Adjust the **Delay Time** control fully counter clockwise.
4) Set **Line In/Bus In** slide switch to **Line In** for all zones.

Test Procedure:

1) Turn **Power** switch **on**.
2) All **Front Panel LED's** will illuminate **Red**.
3) Remove **Speaker A** and **Speaker B** connectors for all zones.

Audio and Trigger Test:

1) Connect the **CD player** line level output to **Bus In Left** and **Right** jacks.
2) Press Play on the CD player and play any song.

3) Place a **Trigger Test LED** into the Zone 1 **Trigger Out 12V** jack.
4) Set the Zone 1 **Line In/Bus In** slide switch to **Bus In**.
5) Zone 1 Front Panel LED with illuminate Green.
6) Zone 1 Trigger Out Test LED will illuminate Red.

7) Repeat step 3 through step 6 for all zones.

8) Connect speakers to Zone 1 **Speaker A** output.
9) Adjust Zone 1 Left Gain control clockwise.
10) Volume will increase for the left channel.
11) Adjust Zone 1 Right Gain control clockwise.
12) Volume will increase for the right channel.
13) Set the Stereo/Bridge Mono slide switch to Bridge Mono.
14) Adjust the Left Gain control.
15) Volume increases for both channels when adjusted clockwise.
16) Volume decreases for both channels when adjusted counter clockwise.
17) Adjust the Right Gain control.
18) No change in volume should occur.
19) Set the Stereo/Bridge Mono slide switch to Stereo.
20) Adjust the Left and Right Gain controls for a moderate volume level.

21) Repeat Step 8 through Step 20 for all zones.

22) Set the Line In/Bus In slide switch to Line In for Zone 1.
23) Connect speakers to **Speaker B** output for Zone 1.
24) No sound should be heard.
25) Move the CD player from Bus In Left to Line In Left for Zone 1.
26) Only the Left channel will be heard on the speakers.
27) Move the CD player from Bus In Right to Line In Right for Zone 1.
28) Now the Right channel will also be heard on the speakers.

29) Repeat Step 22 through Step 28 for all zones.

Bus Out Loop Test:

On all Zones:

1) Adjust **Left** and **Right gain** controls fully counter clockwise.
2) Set the **Stereo/ Bridge Mono** slide switch to the **Stereo** position.
3) Set **Line In/Bus In** slide switch to **Line In** for all zones.
4) Connect the **CD player** line level output to **Bus In Left** and **Right** jacks.
5) Connect RCA cables to **Bus Out** Right and Left to Zone 1 Line In Right and Left.
6) Connect Speakers to Zone 1 Speaker A output.
7) Adjust the Left and Right Gain controls for Zone 1.
8) Audio should be heard on both channels showing Bus Out operates normally.
9) Remove the RCA cables to **Bus Out** Right and Left to Zone 1 Line In Right and Left.

Delay Test:

On all Zones:

1) Adjust **Left** and **Right gain** controls fully counter clockwise.
2) Set the **Stereo/ Bridge Mono** slide switch to the **Stereo** position.
3) Adjust the **Delay Time** control fully counter clockwise.
4) Set **Line In/Bus In** slide switch to **Bus In** for all zones.
5) Place **Trigger Test LED's** in all zones **Trigger Out 12V** jack.
6) Connect the CD player to Bus In Left and Right.
7) Press Play on the CD player and play any song.
8) Confirm all Front Panel LED's are Green.
9) Confirm all Trigger Test LED's illuminate.
10) Press Stop on the CD player.
11) Confirm all Front Panel LED's are Red. **See Note 1.**
12) Confirm all Trigger Test LED's are dark. **See Note 1.**

Note 1: With Delay Time set at minimum, fully counter clockwise, it will take approximately 30 seconds for Front Panel LED's to turn Red and for Trigger Test LED's to go dark.

13) Increase the Delay Time control slightly on all zones.
14) Press Play on the CD player and play any song.
15) Confirm all Front Panel LED's are Green.
16) Confirm all Trigger Test LED's illuminate.
17) Press Stop on the CD player.
18) Confirm all Front Panel LED's are Red. **See Note 2.**
19) Confirm all Trigger Test LED's are dark. **See Note 2.**

Note 2: With Delay Time increased slightly it will take approximately 60 seconds for Front Panel LED's to turn Red and for Trigger Test LED's to go dark.

20) Take a 12V power supply (Russound 1201A with a 1/8" phone jack attached) and plug into **Zone 1 Trigger In**. (Power supply must have a rating of 12V 100ma).
21) **Zone 1 Trigger Test LED** will illuminate and **Zone 1 Front Panel LED** will turn **Green**.
22) Remove the 12V power supply from the Trigger In and the **Trigger Test LED** will go dark and the **Front Panel LED** will turn **Red.**

23) Repeat Steps 20 through 22 for all zones.

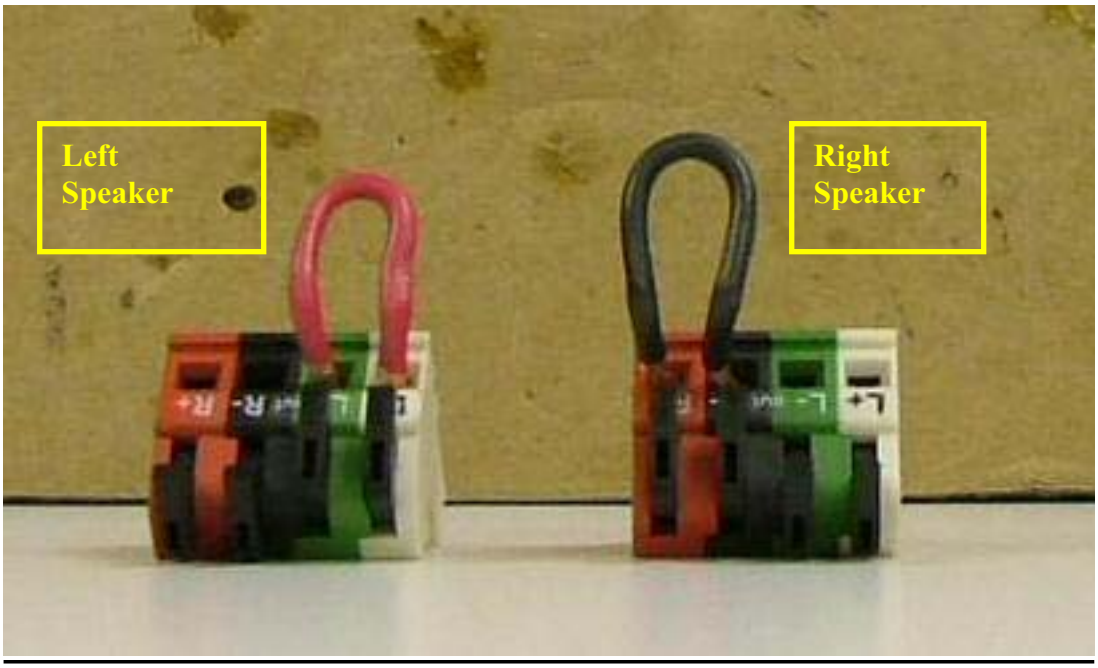
You have confirmed the Delay Time circuit is operating normally.

Protection Circuitry Preparation:

Build the following jumpers for this test. There will be two jumpers total.

Use 16AWG wire only

Short R+ and R- of one Speaker A connector. ***Use 16AWG wire only***
Short L+ and L- of a second Speaker A connector. ***Use 16AWG wire only***



Example of Jumpers

Protection Circuitry Test:

On all Zones:

1) Adjust **Left** and **Right gain** controls fully counter clockwise.
2) Set the **Stereo/ Bridge Mono** slide switch to the **Stereo** position.
3) Set **Line In/Bus In** slide switch to **Bus In** for all zones.

4) Connect the CD player to Bus In Left and Right.
5) Press Play on the CD player and play any song.
6) Confirm all Front Panel LED's are Green.
7) Connect the Left Speaker Jumper to Speaker A Zone 1.
8) Slowly increase the Left Gain control while watching Zone 1 Front Panel LED.
9) Zone 1 Front Panel LED will turn Red.
10) You will also hear the internal relay click.

11) Repeat Step 6 through Step 10 for all zones.

12) Remove the Left Speaker Jumper.
13) Cycle the Power of the amplifier under test.
14) Confirm all Front Panel LED's are Green.
15) Connect the Right Speaker Jumper to Speaker A Zone 1.
16) Slowly increase the Right Gain control while watching Zone 1 Front Panel LED.
17) Zone 1 Front Panel LED will turn Red.
18) You will also hear the internal relay click.

19) Repeat Step 15 through Step 18 for all zones.

The settings for each zone should be as follows before repacking:

1) Adjust **Left** and **Right gain** controls fully counter clockwise.
2) Set the **Stereo/ Bridge Mono** slide switch to the **Stereo** position.
3) Adjust the **Delay Time** control fully counter clockwise.
4) Set **Line In/Bus In** slide switch to **Line In** for all zones.

COMPLETE ANY NECESSARY PAPERWORK AT THIS POINT, REMEMBERING TO KEEP TRACK OF THE SERIAL NUMBER. BE SURE TO CONFIRM THE SERIAL NUMBER ON THE R850MC OR R1250MC IS THE SAME AS THE OUTSIDE OF THE BOX.

THE TEST PROCEDURE IS COMPLETE.

JWGood 03/23/05

REV.	ECN No.	DESCRIPTION	DATE	Appro.
1.1	No need	Correct the schematic Correct the correlation of connector of transformer in the schematic to be consist with the actual connection on PCB.	03/17/2005	Jerry.Zheng
1.2	HS40-R1250MC-C022V1-014	Improve safety 1).Cut connection of pin5 from P208B and P209B. 2).Add P208C and P209C,connect pin1 of P208C and P209C to pin1 of P208B and P209B individually. 3).Connect pin5 of P208C and P209C to pin5 of P210B. 4).For 120V version,change the value of fuse F201,F202 and F203 from T6.3AL/250V to T5AL/250V. 5).For 230V version,change the value of fuse F201,F202 and F203 from T6.3AL/250V to T2.5AL/250V.	03/30/2005	Jerry.Zheng
1.3	HS40-R1250MC-C022V1-016	Improve safety 1)Reconnect Fuse(F201,F202,F203)from NEUTRAL to LIVE line. 2)Change W201 and W205 specification and Part Number. 3)Change R1250MC 120V version real pannel Fuse from 15A to 10A.	04/26/2005	Jerry.Zheng
1.4	HS40-R1250MC-C022V1-029	Make the amplifier more reliable when signal is applied from a controller. 1) Add 470nF/63V 5% polyester film cap in C103. 2) Add 1N5221B zener diode in D113 and D114. 3) Add 470K 5% in R179. 4) Change R179 from 1K 1% to 470ohm 5%.	10/10/2006	Jerry.Zheng
1.5	HS40-R1250MC-C022V1-030	Change uPC1237 to Hansong protection module to meet Rohs requirement 1) Reverse D121 and C170 2) Remove R199 3) Change uPC1237 to HANSONG protection module	10/20/2006	Jerry.Zheng

SPECIAL NOTES

BOARD LAYOUT GUIDELINES

Wire min thickness/spacing: 16mil/16mil (0.5mm/0.5mm)

Place bypass capacitors as close as possible to power pins.

HANSONG(NANJING) ELECTRONICS LTD.
TEL: 86-25-666612152 FAX: 86-25-66612099
8# Kangping Road,Jiangning Economic & Technical Development Zone,Nanjing 210029,China.

DOC #: HS4-R1250MC&R850MC_B007_VM1.5-COVER.SCH			SHEET 0 OF 7
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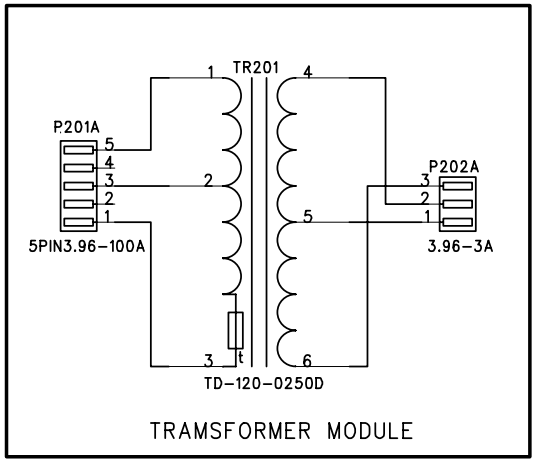
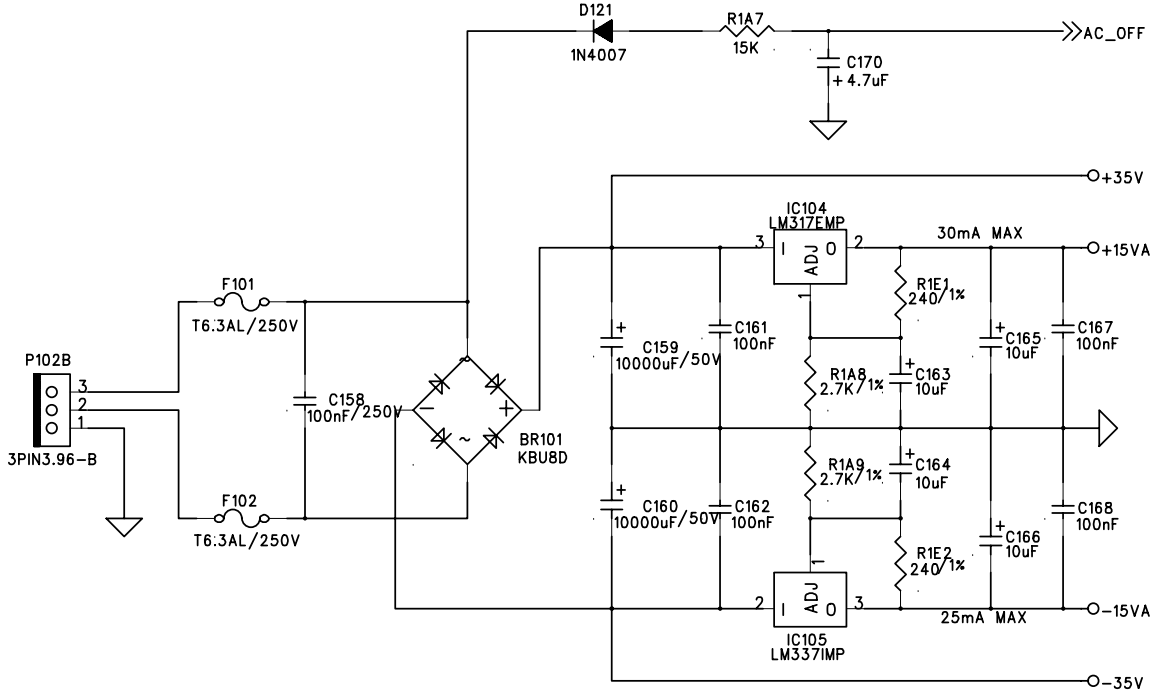
PAGE TITLE REVSION			PAGE SIZE: A4
LAST MODIFIED: Monday, November 27, 2006			SCH REV: 1.5
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:





All Polyester capacitors are 63V unless noted.
All Elec. capacitors are 50V unless noted.
All Resistor are 1/4W unless noted.

CONFIDENTIAL

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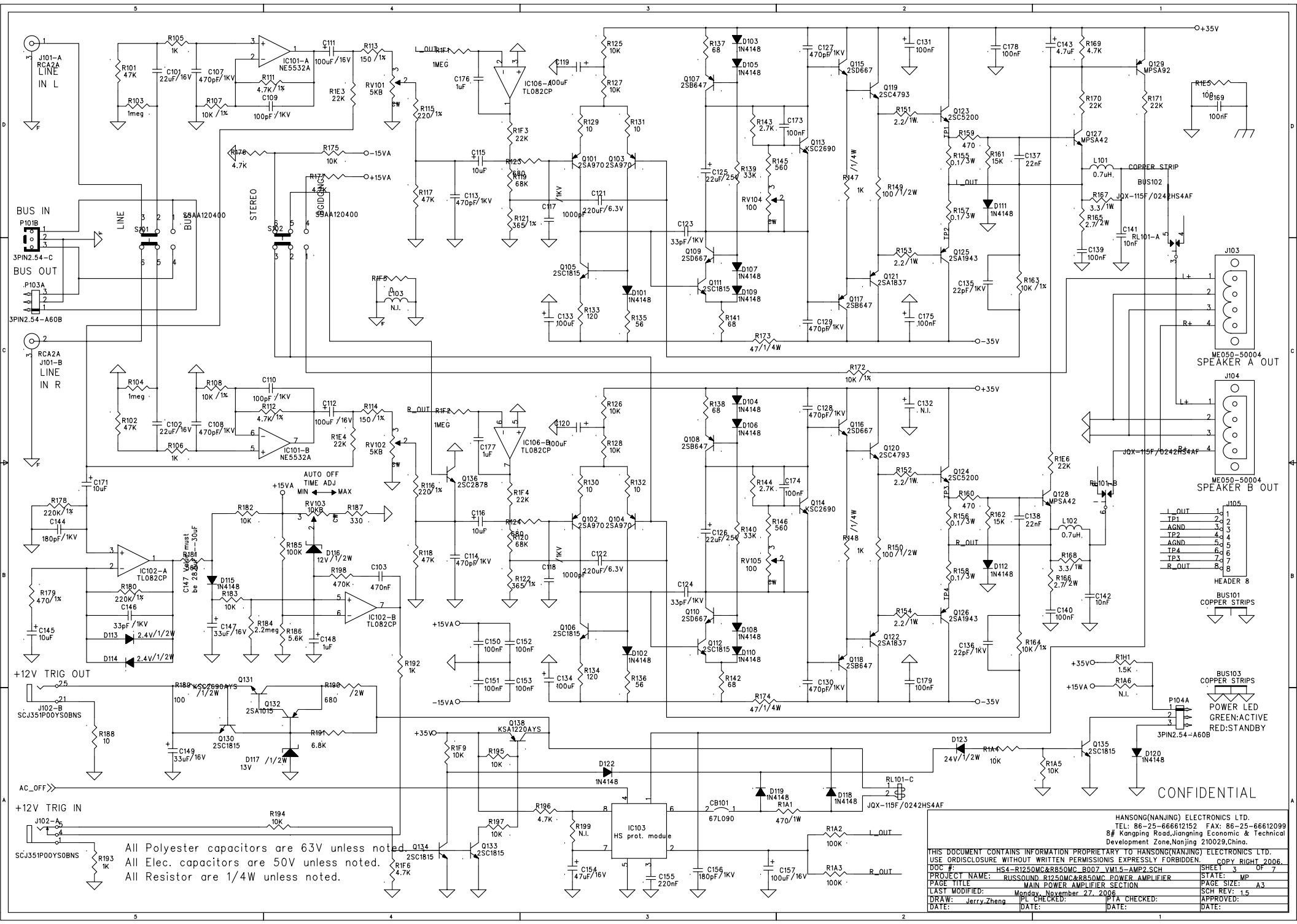
8# Kangping Road,Jiangning Economic & Technical Development Zone,Nanjing 210029,China.

DOC #: HS4-R1250MC&R850MC B007 VM1.5-AMP1.SCH			SHEET 2 OF 7
PROJECT NAME: RUSSOUND R1250MC&R850MC POWER AMPLIFIER			STATE: MP
PAGE TITLE: POWER SUPPLY SECTION			PAGE SIZE: A4
LAST MODIFIED: Monday, November 27, 2006			SCH REV: 1.5
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:



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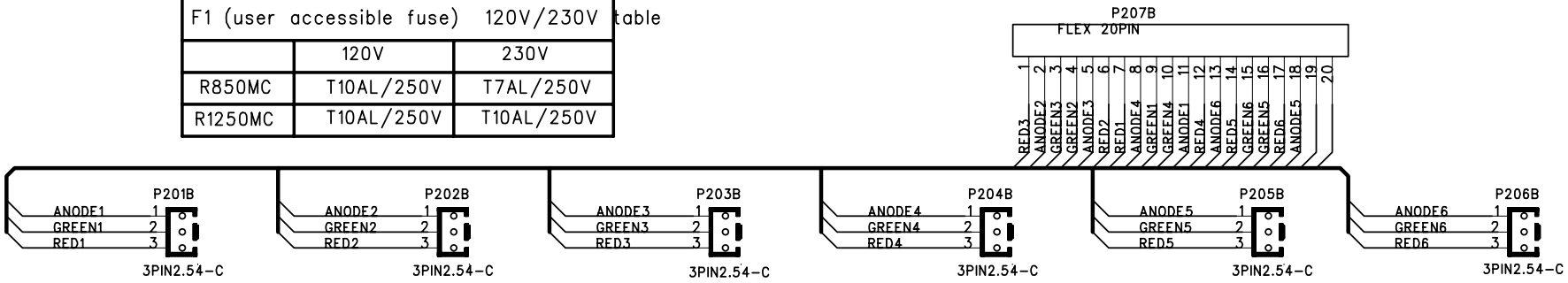
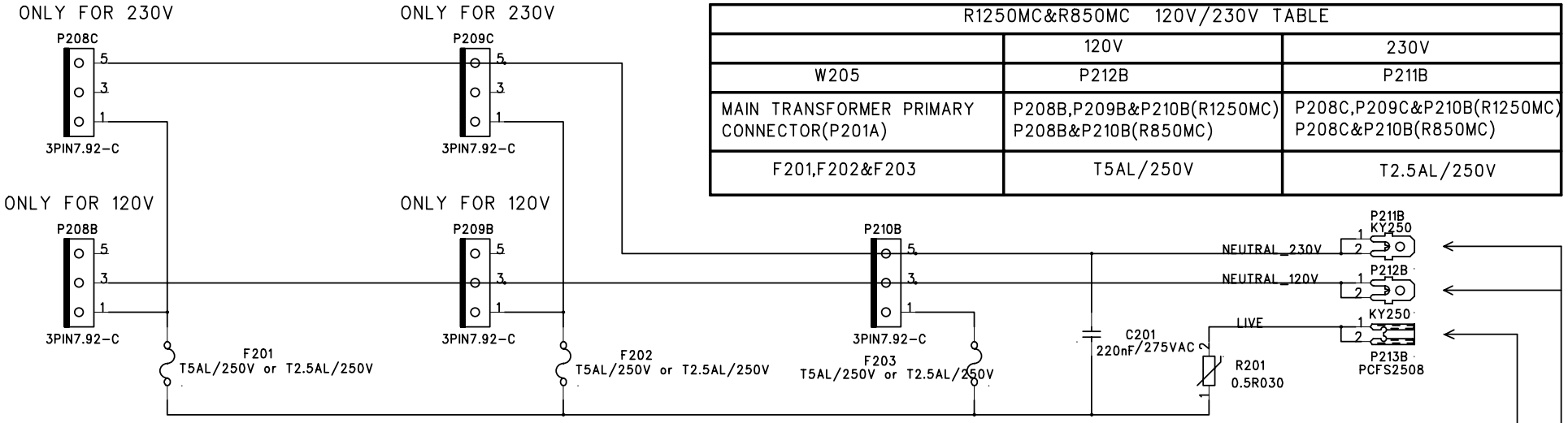
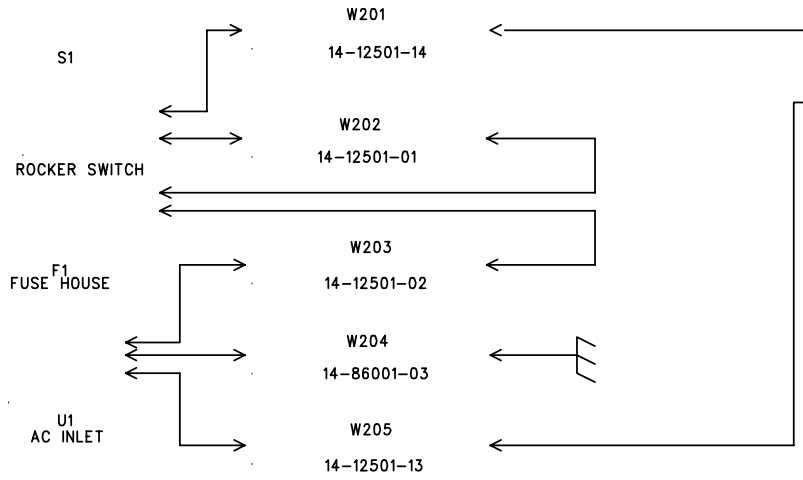
DOC #:	HS4-R1250MC&R850MC_B007_VM1.5-AMP2.SCH		SHEET 3 OF 7
PROJECT NAME:	RUSSOUND R1250MC&R850MC POWER AMPLIFIER		STATE: MP
PAGE TITLE	MAIN POWER AMPLIFIER SECTION		PAGE SIZE: A3
LAST MODIFIED:	Monday, November 27, 2006		SCH REV: 1.5
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:

R1250MC&R850MC F1 (user accessible fuse) 120V/230V table		
	120V	230V
R850MC	T10AL/250V	T7AL/250V
R1250MC	T10AL/250V	T10AL/250V





R1250MC&R850MC 120V/230V TABLE		
	120V	230V
W205	P212B	P211B
MAIN TRANSFORMER PRIMARY CONNECTOR(P201A)	P208B,P209B&P210B(R1250MC) P208B&P210B(R850MC)	P208C,P209C&P210B(R1250MC) P208C&P210B(R850MC)
F201,F202&F203	T5AL/250V	T2.5AL/250V



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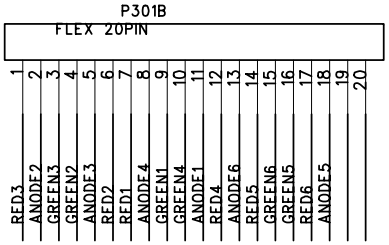
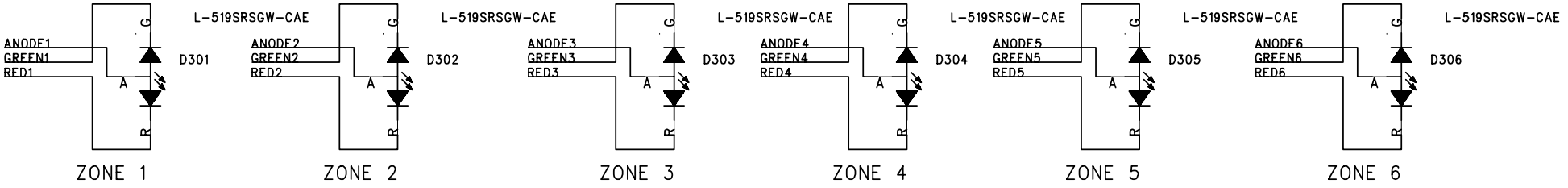
DOC #:	HS4-R1250MC&R850MC B007 VM1.5-POW.SCH		SHEET 4 OF 7
PROJECT NAME:	RUSSOUND R1250MC&R850MC POWER AMPLIFIER		STATE: MP
PAGE TITLE	MAIN TRANSFORMER AND LED CONNECTION BOARD		PAGE SIZE: A4
LAST MODIFIED:	Monday, November 27, 2006		SCH REV: 1.5
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:





The schematic of R850MC is derived from R1250M, since ZONE1 and ZONE6 of R1250MC were removed on R850MC,so the rest of ZONE2,3,4,5 are renamed as ZONE1,2,3 and 4 on R850MC.

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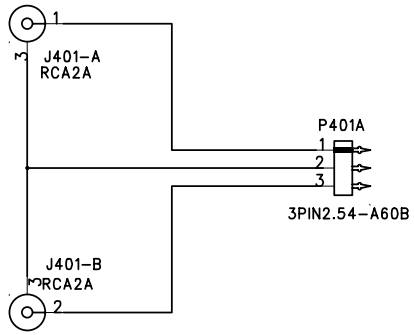
DOC #: HS4-R1250MC&R850MC_B007_VM1.5-LED.SCH			SHEET 5 OF 7
PROJECT NAME: RUSSOUND_R1250MC&R850MC_POWER_AMPLIFIER			STATE: MP
PAGE TITLE: FRONT PANNEL DISPLAY BOARD			PAGE SIZE: A4
LAST MODIFIED: Monday, November 27, 2006			SCH REV: 1.5
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:



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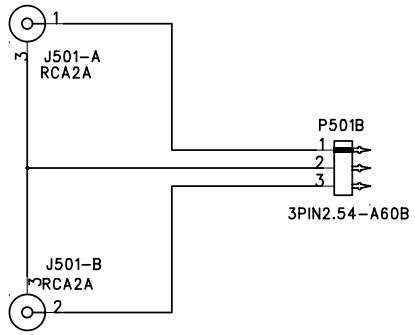
DOC #: HS4-R1250MC&R850MC_B007_VM1.5-BUSIN.SCH			SHEET 6 OF 7
PROJECT NAME: RUSSOUND R1250MC&R850MC POWER AMPLIFIER			STATE: MP
PAGE TITLE: BUS INPUT SECTION			PAGE SIZE: A4
LAST MODIFIED: Monday, November 27, 2006			SCH REV: 1.5
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:



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DOC #: HS4-R1250MC&R850MC_B007_VM1.5-BUSOUT.SCH			SHEET 7 OF 7
PROJECT NAME: RUSSOUND R1250MC&R850MC POWER AMPLIFIER			STATE: MP
PAGE TITLE: BUS OUTPUT SECTION			PAGE SIZE: A4
LAST MODIFIED: Monday, November 27, 2006			SCH REV: 1.5
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:

REV.	ECN No.	DESCRIPTION	DATE	Appro.
1.1	No need	Correct the schematic Correct the correlation of connector of transformer in the schematic to be consist with the actual connection on PCB.	03/17/2005	Jerry.Zheng
1.2	HS40-R1250MC-C022V1-014	Improve safety 1).Cut connection of pin5 from P208B and P209B. 2).Add P208C and P209C,connect pin1 of P208C and P209C to pin1 of P208B and P209B individually. 3).Connect pin5 of P208C and P209C to pin5 of P210B. 4).For 120V version,change the value of fuse F201,F202 and F203 from T6.3AL/250V to T5AL/250V. 5).For 230V version,change the value of fuse F201,F202 and F203 from T6.3AL/250V to T2.5AL/250V.	03/30/2005	Jerry.Zheng
1.3	HS40-R1250MC-C022V1-016	Improve safety 1)Reconnect Fuse(F201,F202,F203)from NEUTRAL to LIVE line. 2)Change W201 and W205 specification and Part Number. 3)Change R1250MC 120V version real pannel Fuse from 15A to 10A.	04/26/2005	Jerry.Zheng
1.4	HS40-R1250MC-C022V1-029	1) Add 470nF/63V 5% polyester film cap in C103. 2) Add 1N5221B zener diode in D113 and D114. 3) Add 470K 5% in R179. 4) Change R179 from 1K 1% to 470ohm 5%.	10/10/2006	Jerry.Zheng
1.5	HS40-R1250MC-C022V1-030	Change uPC1237 to Hansong protection module to meet Rohs requirement 1) Reverse D121 and C170 2) Remove R199 3) Change uPC1237 to HANSONG protection module	10/20/2006	Jerry.Zheng
1.5	HS40-R1250MC-C022V1-037	Improve power off delay time accuracy 1) Reverse D124(1N4148) 2) Change R186 from 5.6K 5% to 6.8K 5%	03/03/2008	Jerry.Zheng
1.6	No need	To meet EN63201 Overall New Design	May.07.10	Jerry.Zheng
1.7	HS40-R1250MC_B24V1-043	Correct the Trigger Function 1) R4L2/R4L4/R4L8/R4M2/R4M4/R4M7 Changed from 47K to 4.7K 2) C4X1/C4X2/C4X3/C4X4/C4X5/C4X6 10uF Capacitors added 3) D431/D432/D433/D434/D435/D436 B0520LW Diodes added 4) Q426/Q427/Q428/Q429/Q430/Q431 DTC144 Transistors added 5) Mother Board PCB Version changed from VM1.0 to VM2.0	Sep.01.10	Jerry.Zheng

SPECIAL NOTES

BOARD LAYOUT GUIDELINES

Wire min thickness/spacing: 16mil/16mil (0.5mm/0.5mm)

Place bypass capacitors as close as possible to power pins.

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DOC #: HS40-R1250MC&R850MC_B007_VM1.7-REV.SCH			SHEET 1 OF 7
PROJECT NAME: RUSSOUND R1250MC&R850MC POWER AMPLIFIER			STATE: MP
PAGE TITLE REVSION HISTORY			PAGE SIZE: A4
LAST MODIFIED: Wednesday, September 01, 2010			SCH REV: 1.6
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:

All Polyester capacitors are 63V unless noted.
All Elec. capacitors are 50V unless noted.
All Resistor are 1/4W unless noted.
All Zener diodes are 1/2W unless noted.

FROM MOTHER BOARD

P301A
MOLEX 41662
1 L IN
2 AGND
3 R IN
4 PROTECT
5 MUTE
6 AGND
7 R OUT
8 AGND
9 L OUT

R101 220/1%
R102 47K
R201 220/1%
R202 47K
C101 470pF/1KV
C201 470pF/1KV
C102 10uF
C202 10uF
R105 680
R103 68K
R104 365/1%
C103 1000pF/1KV
R205 680
R203 68K
R204 365/1%
C203 1000pF/1KV
C106 220uF/6.3V
C206 220uF/6.3V
C104 100uF
C204 100uF
C105 100uF
C205 100uF
C107 43pF/1KV
C207 43pF/1KV
C108 22uF/25V
C208 22uF/25V
C109 100nF
C209 100nF
C110 100pF/1KV
C210 100pF/1KV
C111 100pF/1KV
C211 100pF/1KV
C112 N.I.
C212 N.I.
C113 22nF
C213 22nF
C114 100nF
C214 100nF
C115 10nF
C215 10nF
C307 4.7uF
C309 100uF
C301 100uF
C310 100uF
C302 100uF
C311 10nF
C308 100nF
C303 47uF/16V
C304 220nF
C305 180pF/1KV
C306 100uF/16V

R106 10K
R111 10K
R206 10K
R211 10K
RV101 100
RV201 100
R107 10
R108 10
R207 10
R208 10
R112 68
R212 68
R113 33K
R213 33K
R114 68
R214 68
R115 2.7K
R215 2.7K
R116 560
R216 560
RV102 100
RV202 100
R117 47/1/4W
R217 47/1/4W
R118 1K/1/4W
R218 1K/1/4W
R119 100/1/2W
R219 100/1/2W
R120 2.2/1W
R220 2.2/1W
R121 2.2/1W
R221 2.2/1W
R122 0.1/3W
R222 0.1/3W
R123 0.1/3W
R223 0.1/3W
R124 470
R224 470
R125 15K
R225 15K
R126 10K/1%
R226 10K/1%
R127 22K
R227 22K
R306 4.7K
R307 22K
R129 3.3/1W
R229 3.3/1W
R128 2.7/2W
R228 2.7/2W
R130 100K
R230 100K
R309 100K
R304 100K
R310 10K
R311 10K
R308 100
R301 4.7K
R303 N.I.
R302 4.7K
R305 470/1W

Q101 2SA970
Q102 2SA970
Q201 2SA970
Q202 2SA970
Q103 2SC1815
Q203 2SC1815
Q104 2SB647
Q204 2SB647
Q105 2SD667
Q205 2SD667
Q106 2SC1815
Q206 2SC1815
Q107 KSC2690
Q207 KSC2690
Q108 2SD667
Q208 2SD667
Q109 2SB647
Q209 2SB647
Q110 2SC4793
Q210 2SC4793
Q111 2SA1837
Q211 2SA1837
Q112 2SC5200
Q212 2SC5200
Q113 2SA1943
Q213 2SA1943
Q114 2N5551
Q214 2N5551
Q302 2N5401
Q303 2N5401
Q301 2SC1815

D101 1N4148
D201 1N4148
D102 1N4148
D103 1N4148
D202 1N4148
D203 1N4148
D104 1N4148
D105 1N4148
D204 1N4148
D205 1N4148
D106 1N4148
D206 1N4148
D301 1N4148
D302 1N4148
D308 4.7V

L101 0.7uH
L201 0.7uH

TP1
TP2
TP3
TP4
L_OUT
R_OUT

RL301A JQX-115F/0242HS4AF
RL301B JQX-115F/0242HS4AF
RL301C JQX-115F/0242HS4AF

G301 Ground Solder Tap

J301 CON2X4
L_OUT 1 2 TP1
AGND 3 4 TP2
AGND 5 6 TP4
TP3 7 8 R_OUT

TEST POINT

F301 T6.3AL/250V
F302 T6.3AL/250V

FROM POWER BOARD

P302B
4PIN3.96-C
1
2
3
4

CB301 ST22 90DEG

IC301 HS prot. module

AC OFF

VCC
VSS

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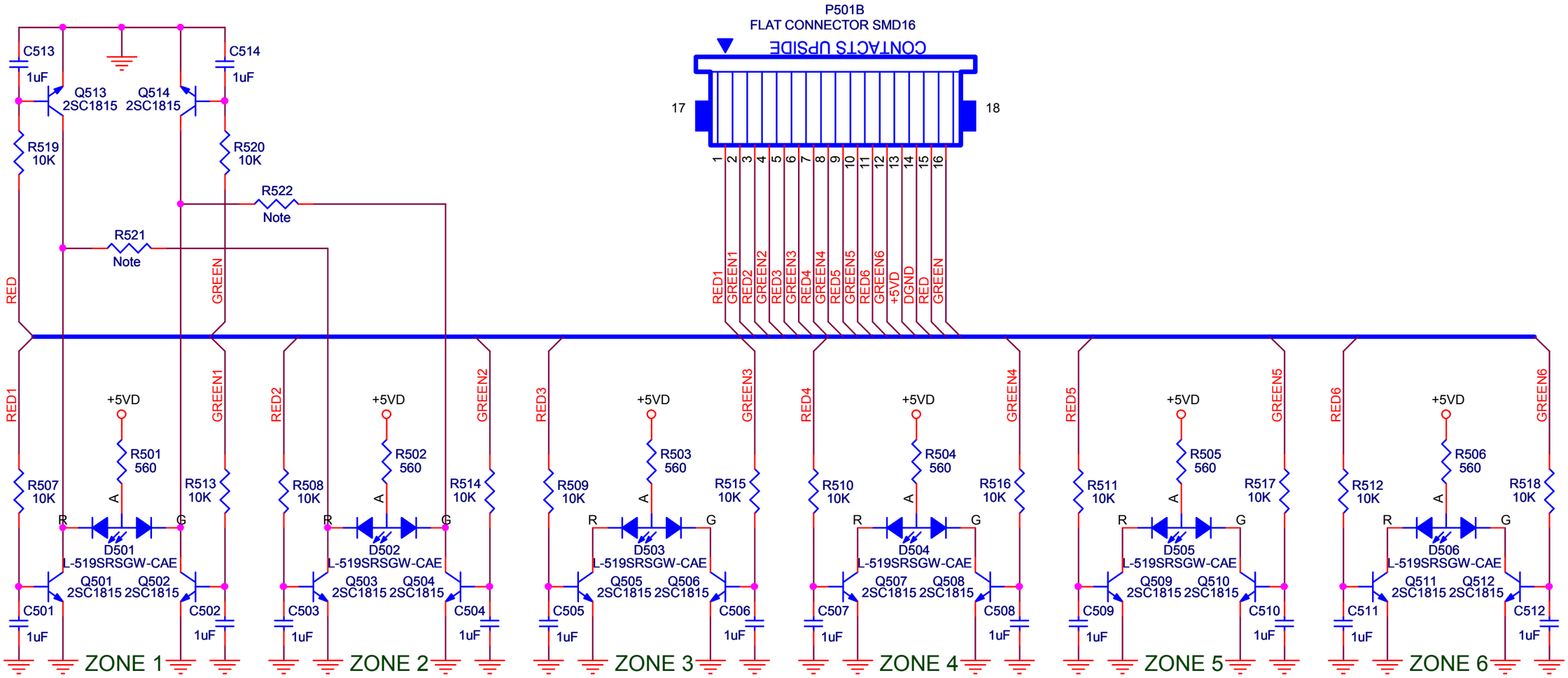
DOC #: HS40-R1250MC&R850MC B007 VM1.7-AMP.SCH			SHEET 2 OF 7
PROJECT NAME: RUSSOUND R1250MC&R850MC POWER AMPLIFIER			STATE: MP
PAGE TITLE POWER AMPLIFIER BOARD			PAGE SIZE: A3
LAST MODIFIED: Wednesday, September 01, 2010			SCH REV: 1.6
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:



The schematic of R850MC is derived from R1250M, since ZONE1 and ZONE6 of R1250MC were removed on R850MC, so the rest of ZONE2,3,4,5 are renamed as ZONE1,2,3 and 4 on R850MC and mount R321/R322 with 0ohm resistor.

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DOC #: HS40-R1250MC&R850MC_B007_VM1.7-LED.SCH			SHEET 3 OF 7
PROJECT NAME: RUSSOUND R1250MC&R850MC POWER AMPLIFIER			STATE: MP
PAGE TITLE FRONT PANNEL DISPLAY BOARD			PAGE SIZE: A4
LAST MODIFIED: Wednesday, September 01, 2010			SCH REV: 1.6
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:

ZONE 1 TRIG IN
ZONE 2 TRIG IN
ZONE 3 TRIG IN
ZONE 4 TRIG IN
ZONE 5 TRIG IN
ZONE 6 TRIG IN
ZONE 1 SPEAKER A&B
ZONE 2 SPEAKER A&B
ZONE 3 SPEAKER A&B
ZONE 4 SPEAKER A&B
ZONE 5 SPEAKER A&B
ZONE 6 SPEAKER A&B
TO POWERAMP
BUS IN
BUS OUT
ZONE 1 DELAY
ZONE 2 DELAY
ZONE 3 DELAY
ZONE 4 DELAY
ZONE 5 DELAY
ZONE 6 DELAY
ZONE 1 VOL L
ZONE 2 VOL L
ZONE 3 VOL L
ZONE 4 VOL L
ZONE 5 VOL L
ZONE 6 VOL L
ZONE 1 VOL R
ZONE 2 VOL R
ZONE 3 VOL R
ZONE 4 VOL R
ZONE 5 VOL R
ZONE 6 VOL R
ZONE 1 TRIGOUT
ZONE 2 TRIGOUT
ZONE 3 TRIGOUT
ZONE 4 TRIGOUT
ZONE 5 TRIGOUT
ZONE 6 TRIGOUT
FUZETEC PTC Resettable Fuse
FROM PS BOARD
TO DISPLAY BOARD
CONTACTS UP SIDE
FLAT CONNECTOR SMD16
Optional RS232
DB9 FEMALE
SP232EEP
STEREO POSITION
BUS IN POSITION

The schematic of R850MC is derived from R1250M, since ZONE1 and ZONE6 of R1250MC were removed on R850MC, so the rest of ZONE2,3,4,5 are renamed as ZONE1,2,3 and 4 on R850MC .

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DOC #:	HS40-R1250MC B007 VM1.7-MOTHER.SCH	SHEET 4 OF 7	
PROJECT NAME:	RUSSOUND R1250MC POWER AMPLIFIER	STATE: MP	
PAGE TITLE	REAR PANEL MOTHER BOARD	PAGE SIZE: A2	
LAST MODIFIED:	Wednesday, September 01, 2010	SCH REV: VM1.6	
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:

ZONE 1 TRIG IN
ZONE 2 TRIG IN
ZONE 3 TRIG IN
ZONE 4 TRIG IN
ZONE 1 SPEAKER A&B
ZONE 2 SPEAKER A&B
ZONE 3 SPEAKER A&B
ZONE 4 SPEAKER A&B
TO POWERAMP
ZONE 1 DELAY
ZONE 2 DELAY
ZONE 3 DELAY
ZONE 4 DELAY
BUS IN
BUS OUT
ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 1 VOL L
ZONE 2 VOL L
ZONE 3 VOL L
ZONE 4 VOL L
ZONE 1 VOL R
ZONE 2 VOL R
ZONE 3 VOL R
ZONE 4 VOL R
ZONE 1 TRIGOUT
ZONE 2 TRIGOUT
ZONE 3 TRIGOUT
ZONE 4 TRIGOUT
FROM PS BOARD
TO DISPLAY BOARD
CONTACTS UP SIDE
FLAT CONNECTOR SMD16
FUZETEC PTC Resettable Fuse
Optional RS232
DB9 FEMALE
SP232EEP
CD4094BNSR
STC12C5A16S2-35C-LQFP44
6PIN2.54-C
The schematic of R850MC is derived from R1250M, since ZONE1 and ZONE6 of R1250MC were removed on R850MC, so the rest of ZONE2,3,4,5 are renamed as ZONE1,2,3 and 4 on R850MC .

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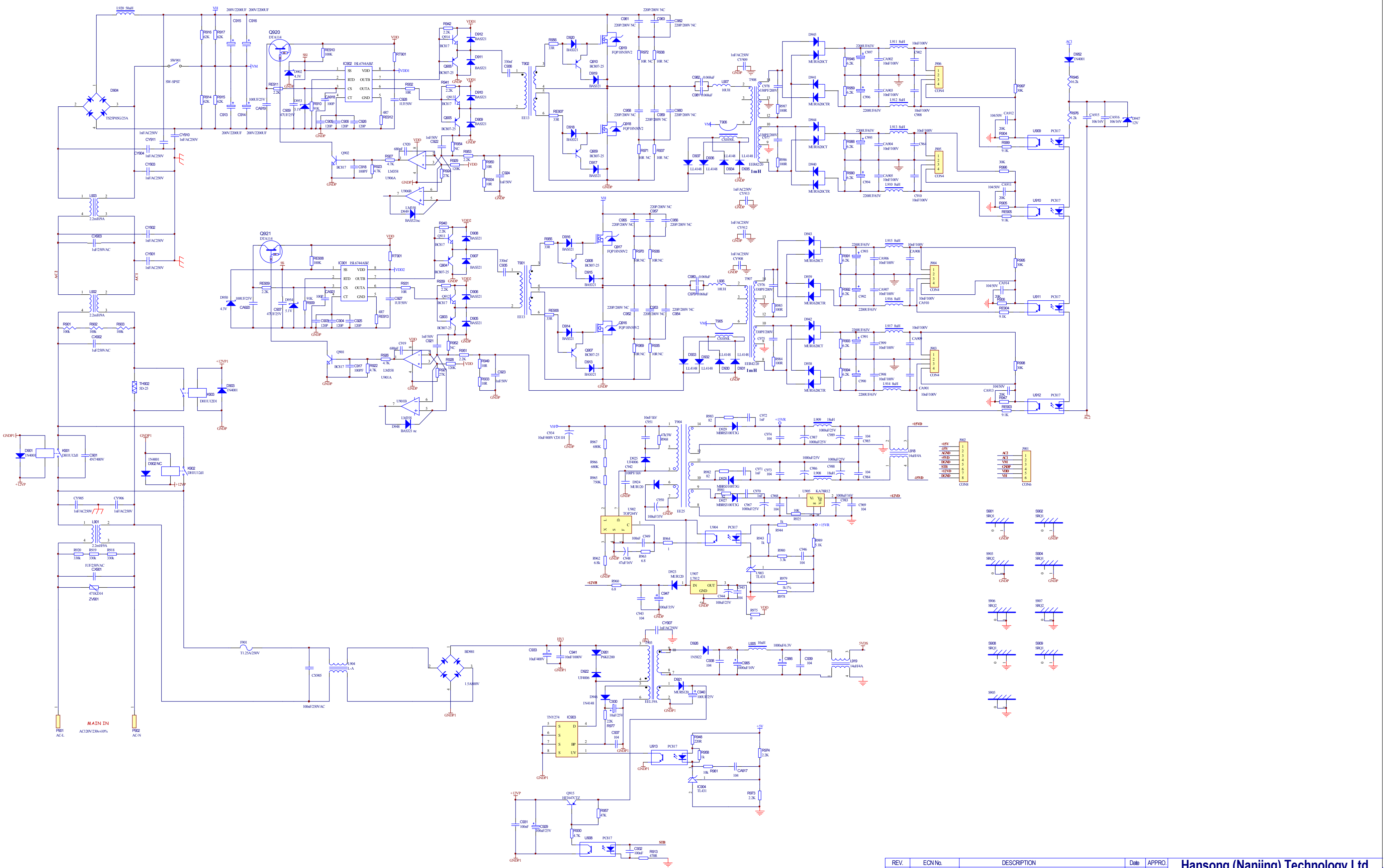
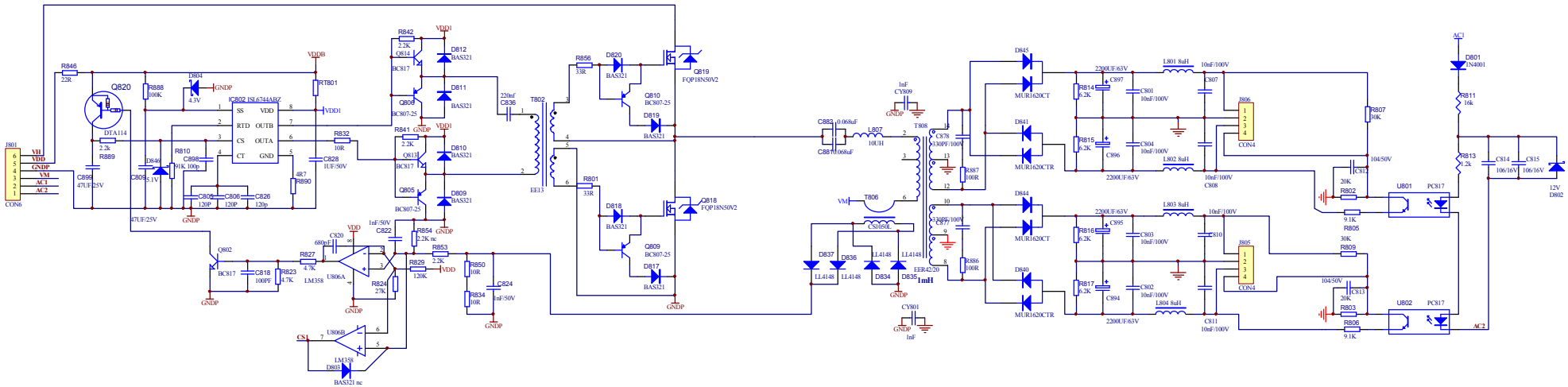
DOC #:	HS40-R850MC B007 VM1.7-MOTHER.SCH	SHEET 5	OF 7
PROJECT NAME:	RUSSOUND R1250MC POWER AMPLIFIER	STATE:	MP
PAGE TITLE	REAR PANEL MOTHER BOARD	PAGE SIZE:	A2
LAST MODIFIED:	Wednesday, September 01, 2010	SCH REV:	VM1.6
DRAW: Jerry.Zheng	PL CHECKED:	PTA CHECKED:	APPROVED:
DATE:	DATE:	DATE:	DATE:



REV.	ECN No.	DESCRIPTION	Date	APPRO.

Hansong (Nanjing) Technology Ltd.
No.HS/QR-RD-25

Document Number: HS40-R1250MC&R850MC_B09_VM1.7_SMPS		Sheet	6/7
Project R1250MC&R850MC		State:	VM1.7
Drafted by:	PL Checked:	HW Manager Checked:	R&D Director Approved:
Date:	Date:		Date:



REV.	ECN No.	DESCRIPTION	Date	APPRO.

Hansong (Nanjing) Technology Ltd.

No.HS/QR-RD-25

Document Number:	HS40-R1250MC_B09_VM1.7_Added SMPS	Sheet:	7/7
Project:	R1250MC	State:	Vm1.7

Drafted by:	PL Checked:	HW Manager Checked:	R&D Director Approved:
Date:	Date:		Date:

汉桑（南京）电子有限公司
文件编号：HS4-R1250MC_B013VM1.7

R1250MC PARTS LIST

版本：VM1.7
用途：for MP
日期：2005-5-16

拟制（电路/结构）：
日期：

项目负责人审核：
日期：

PTA审核：
日期：

开发主管（电子/结构）批准：
日期：

L 层次	CP 关键件	P/N 编号	Description/名称 中文	 英文	Part Type 规 格	Designator 位 号	Footprint 封 装	Leg Spceing 脚 距	Qty 数量	Manufacturer 生产厂家	Manufacturer model no 生产厂家型号	ECN No. ECN编号	Remark 备 注	Consumptive parts 易耗件	SEF status SEF状态	Confirmed parts 已确认部件
0			C VERSION P/N:00-12500-20	CUSTOMER P/N:41-9897		AH VERSION P/N:00-12500-10		CUSTOMER P/N:2800-521881								
.1	P/N: 01-12510-00		AMP MODULE													
..2	P/N :01-12501-00		PCB1 BOARD(AMP)													
PCB 线路板																
..3		16-12501-10	双面印刷电路板	PCB(DOUBLE SIDE)	POWERAMP board	FR-4,1.6mm,红色,双面各2盎司	单板290mmX110mm		1×6	惠承		010				
....4		16-12510-00	双面印刷电路板	PCB(DOUBLE SIDE)	ASM1(1拼1)	FR-4,1.6mm,红色,双面各2盎司	拼板300mmX129mm		1/2×6	惠承						
DODES 二级管																
...3		33-44148-02	开关二极管	Switch Diode	1N4148	D101，D102，D103，D104，D105，D106，D107，D108，D109，D110，D111，D112，D115，D118，D119，D120，D122	DAX/.300X.080/.031	7.5mm	17×6	中宝/虹扬/FAIRCHILD/PHILIPS		007				
....4		33-44148-00	开关二极管	Switch Diode	1N4148			DO-35	17×6	中宝/虹扬/FAIRCHILD/PHILIPS	1N4148					
...3		33-24007-01	整流二极管	Recti Diode	1N4007	D121	DAX/.400X.100/.039	10mm	1×6	中宝/虹扬	1N4007					
....4		33-24007-00	整流二极管	Recti Diode	1N4007			DO-41	1×6	中宝/虹扬	1N4007					
...3		33-11200-01	稳压二极管	Zener Diode	12V，1/2W	D116	DAX/.300X.080/.031	7.5mm	1×6	中宝/虹扬						
....4		33-11200-10	稳压二极管	Zener Diode	12V，1/2W			DO-35	1×6	中宝/虹扬						
...3		33-11300-01	稳压二极管	Zener Diode	13V，1/2W	D117	DAX/.300X.080/.031	7.5mm	1×6	中宝/虹扬						
....4		33-11300-00	稳压二极管	Zener Diode	13V，1/2W			DO-35	1×6	中宝/虹扬						
...3		33-12400-06	稳压二极管	Zener Diode	24V，1/2W	D123	DAX/.300X.080/.031	7.5mm	1×6	中宝/虹扬		007				
....4		33-12400-00	稳压二极管	Zener Diode	24V，1/2W			DO-35	1×6	中宝/虹扬		007				
...3		33-30822-03	整流桥	BRIDGE	KBU8D	BR101	BRIDGE/1.010X.290/.063	不打弯,引线长18mm	1×6	虹扬	KBU8D	007				
TRANSISTORS 三极管																
...3		31-00970-00	小功率三极管	Transistor	2SA970-GR	Q101，Q102，Q103，Q104	TO92/100/ECB		4×6	TOSHIBA						
...3		31-01815-00	小功率三极管	Transistor	2SC1815-GR	Q105，Q106，Q111，Q112，Q130，Q133，Q134，Q135	TO92/100/ECB		8×6	TOSHIBA		007				
...3		31-00647-00	中功率三极管	Transistor	2SB647ACTZ	Q107，Q108，Q117，Q118	TO92/100/ECB		4×6	HITACHI						
...3		31-00667-00	中功率三极管	Transistor	2SD667ACTZ	Q109，Q110，Q115，Q116	TO92/100/ECB		4×6	HITACHI						
...3		31-01220-00	中功率三极管	Transistor	KSA1220AYSTU	Q138	TO126/90/ECB		1×6	FAIRCHILD						
...3		31-02690-00	中功率三极管	Transistor	KSC2690AYASTU	Q113，Q114，Q131	TO126/90/ECB		3×6	FAIRCHILD						
...3		31-00042-00	三极管	Transistor	MPSA42	Q127，Q128	TO92/100/EBC		2×6	PHILIPS						
...3		31-00092-00	三极管	Transistor	MPSA92	Q129	TO92/100/EBC		1×6	PHILIPS						

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L	CP	P/N	Description/名称		Part Type	Designator	Footprint	Leg Spceing	Qty	Manufacturer	Manufacturer model no.	ECN No.	Remark	Consumptive parts	SEF status	Confirmed parts
层次	关键件	编号	中文	英文	规　格	位　号	封　装	脚　距	数量	生产厂家	生产厂家型号	ECN编号	备　注	易耗件	SEF状态	已确认部件
…3		31-01015-00	小功率三极管	Transistor	2SA1015-GR	Q132	TO92/100/ECB		1×6	TOSHIBA						
…3		31-02878-00	小功率三极管	Transistor	2SC2878A	Q136	TO92/100/ECB		1×6	TOSHIBA						
…3		31-04793-00	中功率三极管	Transistor	2SC4793	Q119，Q120	TO220AB/100/SURFACE/BCE		2×6	TOSHIBA						
…3		31-01837-00	中功率三极管	Transistor	2SA1837	Q121，Q122	TO220AB/100/SURFACE/BCE		2×6	TOSHIBA						
…3		31-05200-00	大功率三极管	Transistor	2SC5200-O	Q123，Q124	TO264/215/SURFACE/BCE		2×6	TOSHIBA						
…3		31-01943-00	大功率三极管	Transistor	2SA1943-O	Q125，Q126	TO264/215/SURFACE/BCE		2×6	TOSHIBA						
IC 集成块																
…3		03-05532-00	双运放	DUAL OP-AMP	NE5532	IC101	DIP.100/8/W.300/L.400		1×6	JRC/TI						
…3		03-00082-00	双运放	DUAL OP-AMP	TL082CP	IC102，IC106	DIP.100/8/W.300/L.400		2×6	JRC/TI						
…3		03-00317-03	三端可调稳压器	LINEAR REGULATOR	LM317EMP	IC104	SM/SOT223_1234		1×6	NS	LM317EMP					
…3		03-00337-01	三端稳压块	LINEAR REGULATOR	LM337IMP	IC105	SM/SOT223_1234		1×6	NS	LM337IMP					
…3		03-01237-00	保护IC	Protect IC	uPC1237HA	IC103	SIP.100/8/W.200/L.825		1×6	NEC	Upc1237ha					
RESISTOR 电阻																
…3		07-70022-09	温度开关	THERMAL CIRCUIT BRAKE	ST-22 90C L TYPE	CB101	TO220AC/SURFACE		1×6	SEKI	ST-22 90C L TYPE					
…3		21-06500-00	光线	Link	L=5mm	R1F5	AX/.200X.080/.031	5mm	1×6			007				
…3		07-20100-00	金属膜电阻	Metal Film Resistor	10Ω，1/6W，5%	R129，R130，R131，R132，R188	AX/.200X.080/.031	5mm	5×6	永星		007				
…3		07-20560-00	金属膜电阻	Metal Film Resistor	56Ω，1/6W，5%	R135，R136	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-20680-00	金属膜电阻	Metal Film Resistor	68Ω，1/6W，5%	R137，R138，R141，R142	AX/.200X.080/.031	5mm	4×6	永星						
…3		07-20101-00	金属膜电阻	Metal Film Resistor	100Ω，1/6W，5%	R1E5	AX/.200X.080/.031	5mm	1×6	永星						
…3		07-20121-00	金属膜电阻	Metal Film Resistor	120Ω，1/6W，5%	R133，R134	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-21500-00	金属膜电阻	Metal Film Resistor	150Ω，1/6W，1%	R113，R114	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-22200-00	金属膜电阻	Metal Film Resistor	220Ω，1/6W，1%	R115，R116	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-22400-00	金属膜电阻	Metal Film Resistor	240Ω，1/6W，1%	R1E1，R1E2	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-20331-00	金属膜电阻	Metal Film Resistor	330Ω，1/6W，5%	R187	AX/.200X.080/.031	5mm	1×6	永星		007				
…3		07-23650-00	金属膜电阻	Metal Film Resistor	365Ω，1/6W，1%	R121，R122	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-20471-00	金属膜电阻	Metal Film Resistor	470Ω，1/6W，5%	R159，R160	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-20561-00	金属膜电阻	Metal Film Resistor	560Ω，1/6W，5%	R145，R146，R181	AX/.200X.080/.031	5mm	3×6	永星		007				
…3		07-20681-00	金属膜电阻	Metal Film Resistor	680Ω，1/6W，5%	R123，R124	AX/.200X.080/.031	5mm	2×6	永星		007				
…3		07-21001-00	金属膜电阻	Metal Film Resistor	1KΩ，1/6W，1%	R179	AX/.200X.080/.031	5mm	1×6	永星						
…3		07-20102-00	金属膜电阻	Metal Film Resistor	1KΩ，1/6W，5%	R105，R106，R192，R193	AX/.200X.080/.031	5mm	4×6	永星		007				
…3		07-20152-00	金属膜电阻	Metal Film Resistor	1K5Ω，1/6W，5%	R1H1	AX/.200X.080/.031	5mm	1×6	永星		007				
…3		07-22701-00	金属膜电阻	Metal Film Resistor	2K7Ω，1/6W，1%	R1A8，R1A9	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-20272-00	金属膜电阻	Metal Film Resistor	2K7Ω，1/6W，5%	R143，R144	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-24701-00	金属膜电阻	Metal Film Resistor	4K7Ω，1/6W，1%	R111，R112	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-20472-00	金属膜电阻	Metal Film Resistor	4K7Ω，1/6W，5%	R169，R176，R177，R196，R1F6	AX/.200X.080/.031	5mm	5×6	永星		007				

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…3		07-20562-00	金属膜电阻	Metal Film Resistor	5K6Ω，1/6W，5%	R186	AX/.200X.080/.031	5mm	1×6	永星						
…3		07-20682-00	金属膜电阻	Metal Film Resistor	6K8Ω，1/6W，5%	R191	AX/.200X.080/.031	5mm	1×6	永星						
…3		07-21002-00	金属膜电阻	Metal Film Resistor	10KΩ，1/6W，1%	R107，R108，R163，R164，R172	AX/.200X.080/.031	5mm	5×6	永星						
…3		07-20103-00	金属膜电阻	Metal Film Resistor	10KΩ，1/6W，5%	R125，R126，R127，R128，R175，R182，R183，R194，R195，R197，R1A4，R1A5，R1F9	AX/.200X.080/.031	5mm	13×6	永星		007				
…3		07-20153-00	金属膜电阻	Metal Film Resistor	15KΩ，1/6W，5%	R161，R162，R1A7	AX/.200X.080/.031	5mm	3×6	永星		007				
…3		07-20223-00	金属膜电阻	Metal Film Resistor	22KΩ，1/6W，5%	R170，R171，R1E3，R1E4，R1E6，R1F3，R1F4	AX/.200X.080/.031	5mm	7×6	永星						
…3		07-20333-00	金属膜电阻	Metal Film Resistor	33KΩ，1/6W，5%	R139，R140	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-20473-00	金属膜电阻	Metal Film Resistor	47KΩ，1/6W，5%	R101，R102，R117，R118	AX/.200X.080/.031	5mm	4×6	永星		007				
…3		07-20683-00	金属膜电阻	Metal Film Resistor	68KΩ，1/6W，5%	R119，R120	AX/.200X.080/.031	5mm	2×6	永星						
…3		07-20104-00	金属膜电阻	Metal Film Resistor	100KΩ，1/6W，5%	R185，R199，R1A2，R1A3	AX/.200X.080/.031	5mm	4×6	永星						
…3		07-22203-00	金属膜电阻	Metal Film Resistor	220KΩ，1/6W，1%	R178，R180	AX/.200X.080/.031	5mm	2×6	永星		007				
…3		07-20105-00	金属膜电阻	Metal Film Resistor	1megΩ，1/6W，5%	R103，R104，R1F1，R1F2	AX/.200X.080/.031	5mm	4×6	永星		007				
…3		07-20225-00	金属膜电阻	Metal Film Resistor	2.2megΩ，1/6W，5%	R184	AX/.200X.080/.031	5mm	1×6	永星						
…3		07-40108-03	水泥电阻	Cement Resistor	0.1Ω，3W，5%	R155，R156，R157，R158	RAD/RES/.520X.200/LS.400/.039	10mm，不打弯不打扁，插装到底	4×6	伟创	RX21					
…3		07-30229-01	金属氧化膜电阻	Metal Oxide Film Resistor	2.2Ω，1W，5%	R151，R152，R153，R154	AX/.600X.175/.039	15mm,架高10mm	4×6	永星						
…3		07-30279-02	金属氧化膜电阻	Metal Oxide Film Resistor	2.7Ω，2W，5%	R165，R166	AX/.800X.200/.039	20mm,架高10mm	2×6	永星						
…3		07-30339-10	金属氧化膜电阻	Metal Oxide Film Resistor	3.3Ω，1W，5%	R167，R168	AX/.800X.200/.039	20mm,架高10mm	2×6	永星						
…3		07-30471-01	金属氧化膜电阻	Metal Oxide Film Resistor	470Ω，1W，5%	R1A1	AX/.600X.175/.039	15mm,架高10mm	1×6	永星						
…3		07-50101-01	熔断电阻	FUSEABLE Resistor	100Ω，1/2W，5%	R149，R150，R189	AX/.400X.080/.031	10mm	3×6	伟斯						
…3		07-50470-10	熔断电阻	FUSEABLE Resistor	47Ω，1/4W，5%	R173，R174	AX/.400X.080/.031	10mm	2×6	伟斯						
…3		07-50681-02	熔断电阻	FUSEABLE Resistor	680Ω，2W，5%	R190	AX/.600X.175/.039	15mm,架高10mm	1×6	伟斯						
…3		07-50102-00	熔断电阻	FUSEABLE Resistor	1KΩ，1/4W，5%	R147，R148	AX/.400X.080/.031	10mm	2×6	伟斯						
CAPACTIOR 电容																
…3		05-22013-00	瓷片电容	Ceramic Capacitor	22pF，10%，1KV	C135，C136	CPAX/.200X.100/.032	5mm	2×6	TDK/BC component/玉跃		007				

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…3		05-33013-01	瓷片电容	Ceramic Capacitor	33pF，10%，1KV	C123，C124， C146	CPAX/.200X.100/.032	5mm	3×6	TDK/BC component/玉跃		007				
…3		05-10113-01	瓷片电容	Ceramic Capacitor	100pF，10%，1KV	C109，C110	CPAX/.200X.100/.035	5mm	2×6	TDK/BC component/玉跃		007				
…3		05-18113-00	瓷片电容	Ceramic Capacitor	180pF，10%，1KV	C144, C156	CPAX/.200X.100/.036	5mm	2×6	TDK/BC component/玉跃		007				
…3		05-47113-00	瓷片电容	Ceramic Capacitor	470pF，10%，1KV	C107，C108，C113，C114，C127，C128，C129，C130	CPAX/.200X.100/.038	5mm	8×6	TDK/BC component/玉跃		007				
…3		05-10213-02	瓷片电容	Ceramic Capacitor	1000pF，10%，1KV	C117，C118	CPAX/.200X.100/.036	5mm	2×6	TDK/BC component/玉跃		007				
…3		25-10361-02	聚脂电容	Polyester capacitor	10nF，5%，63V	C141，C142	RAD/.300X.150/LS.200/.031	5mm	2×6	FALA	CL23B					
…3		25-22361-05	聚脂电容	Polyester capacitor	22nF，5%，63V	C137，C138	RAD/.300X.150/LS.200/.031	5mm	2×6	FALA	CL23B					
…3		25-10461-07	聚脂电容	Polyester capacitor	100nF，5%，63V	C131，C139，C140，C150，C151，C152，C153，C161，C162，C167，C168，C169，C173，C174，C175，C178，C179	RAD/.300X.150/LS.200/.031	5mm	17×6	FALA	CL23B					
…3		25-10422-01	聚脂电容	Polyester capacitor	100nF，5%，250V	C158	RAD/.300X.250/LS.200/.031	5mm	1×6	FALA	CL23B					
…3		25-22461-01	聚脂电容	Polyester capacitor	220nF，10%，63V	C155	RAD/.300X.150/LS.200/.031	5mm	1×6	FALA	CL23B					
…3		25-10561-02	聚脂电容	Polyester capacitor	1uF/63V，5%	C176，C177	RAD/CAP/.300X.250/LS.200/.031	5mm	2×6	FALA	CL23B					
…3		06-10951-03	铝电解电容	ALU Electrolytic Capacitor	1uF/50V，20%	C148	CPCYL/D.200/LS.200/.031	5mm	1×6	江海	1uF/50V，20%，CD263					
…3		06-47951-05	铝电解电容	ALU Electrolytic Capacitor	4.7uF/50V，20%，105℃	C143，C170	CPCYL/D.200/LS.200/.031	5mm	2×6	江海	4.7uF/50V，20%，105℃，CD263					
…3		06-10051-01	铝电解电容	ALU Electrolytic Capacitor	10uF/50V，20%	C115, C116, C145，C163，C164，C165，C166，C171	CPCYL1/D.200/LS.200/.031	5mm	8×6	江海	10uF/50V，20%，CD263					
…3		06-22021-01	铝电解电容	ALU Electrolytic Capacitor	22uF/25V，20%	C125, C126	CPCYL/D.200/LS.200/.031	5mm	2×6	江海	22uF/25V，20%，CD263					
…3		06-22011-03	铝电解电容	ALU Electrolytic Capacitor	22uF/16V，20%，无极性	C101, C102	CPCYL/D.200/LS.200/.031	5mm	2×6	江海	22uF/16V，20%，无极性，CD71H					
…3		06-33011-02	铝电解电容	ALU Electrolytic Capacitor	33uF/16V，20%	C149	CPCYL1/D.200/LS.200/.031	5mm	1×6	江海	33uF/16V，20%，CD263	007				
…3		06-33011-03	铝电解电容	ALU Electrolytic Capacitor	33uF/16V，精度为28.5uF~30uF	C147	CPCYL1/D.200/LS.200/.031	5mm	1×6	江海	33uF/16V，精度为28.5uF~30uF，CD263	007				
…3		06-47011-00	铝电解电容	ALU Electrolytic Capacitor	47uF/16V，20%	C154	CPCYL1/D.200/LS.200/.031	5mm	1×6	江海	47uF/16V，20%，CD263					

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L	CP	P/N	Description/名称		Part Type	Designator	Footprint	Leg Spceing	Qty	Manufacturer	Manufacturer model no.	ECN No.	Remark	Consumptive parts	SEF status	Confirmed parts
层次	关键件	编号	中文	英文	规 格	位 号	封 装	脚 距	数量	生产厂家	生产厂家型号	ECN编号	备 注	易耗件	SEF状态	已确认部件
…3		06-10111-07	铝电解电容	ALU Electrolytic Capacitor	100uF/16V，20%	C111，C112, C157	CPCYL1/D.200/LS.200/.031	5mm	3×6	江海	100uF/16V，20%，CD263					
…3		06-10151-04	铝电解电容	ALU Electrolytic Capacitor	100uF/50V，20%	C119，C120，C133，C134	CPCYL1/D.300/LS.200/.031	5mm	4×6	江海	100uF/50V，20%，CD263					
…3		06-22160-00	铝电解电容	ALU Electrolytic Capacitor	220uF/6.3V，20%，无极性	C121，C122	CPCYL1/D.325/LS.200/.031	5mm	2×6	江海	220uF/6.3V，20%，CD71H					
…3		06-10351-02	铝电解电容	ALU Electrolytic Capacitor	10000uF/50V，105℃	C159，C160	CPCYL1/D1.420/LS.880/.079	22.5mm	2×6	江海	10000uF/50V，105℃，CD294		35×35mm，无NAD标识，四只脚			
INDUCTOR 电感																
…3		08-01079-01	电感	Inductor	1uH，卧式	L101，L102	RAD/.850X.450/LS.700/.059	18mm	2×6	美声/格卢						
RELAYS 继电器																
…3		12-03102-00	继电器	RELAYS	JQX-115F/0242HS4AF	RL101	RELAY_3		1×6	HONGFA						
POT 电位器																
…3		09-02101-01	半可变电位器	SEMI POT	100Ω，立式可调电阻	RV104，RV105	VRES17		2×6	715厂	W206-1AL					
…3		09-01502-01	电位器	POT	5K，R0901N-QA1-B502	RV101，RV102	VPOT1		2×6	宏准						
…3		09-01103-11	电位器	POT	10K，R0901N-QA1-B103	RV103	VPOT1		1×6	宏准						
CONNECTORS 接插件																
…3		17-01002-02	同心插座	RCA	上白下红, 无接地片	J101	RCA2A		1×6	通达	AV-8.4-14					
…3		17-02002-02	耳机插座	HEAD PHONE JACK	SCJ351P00YS0B00	J102	PHONE JACK 6		1×6	旭仝						
…3		13-22503-00	插座	HOUSING	3PIN2.54-C	P101B	BLKCON.100/VH/TM1SQB/W.200/3	XHB 2.5A-3A	1×6	LONSID	LD25035-3A					
…3		13-23903-10	插座	HOUSING	3PIN3.96-B	P102B	BLKCON.156/VH/TM1SQB/W.355/3	VH 3.96A-3A	1×6	格卢		007	随变压器供货			
…3		13-13904-02	弯针	JUMPER HEADER	4PIN3.96-B弯脚	J103	BLKCON.156/VH/TM1SQB/W.355/4		1×6	LONSID	HS4-R1250B009V1M011 B					
…3		14-12503-02	线排带插针	CONNECTOR	3PIN2.54-A60B	P103A，P104A	BLKCON.100/VH/TM1SQ/W.200/3		2×6	LONSID		007				
…3		32-28042-00	接地片	Ground Solder Tap	GND-8	G1G1			1×6	康扬	GND-8					
…3		13-12508-21	弯针（双排）	JUMPER HEADER	8PIN2.54弯脚	J105	BLKCON.100/VH/TM2OE/W.200/8		1×6	MOLEX	10-89-4062					
…3		11-05202-09	滑动开关	SLIDE SWITCH	SSAA120200	S101, S102	SW_SLIDE-DPDT		2×6	ALPS	SSAA120200					
FUSE 保险丝																
…3		20-12632-00	保险丝	FUSE	T6.3AL/250V	F101，F102	T6.3AL/250V		2×6	力特						
…3		20-20000-06	保险丝座	FUSE HOLDER	LS-PTF-78，不要盖子(CQ-200C)	F101，F102	RAD/.1000X.400/LS.850/.066		2×6	乐声						
METAL PARTS 金属件																

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层次	关键件	编号	中文	英文	规　格	位　号	封　装	脚　距	数量	生产厂家	生产厂家型号	ECN编号	备　注	易耗件	SEF状态	已确认部件
…3		69-010001-0	铜条	BUSBAR	HS4-T972-B009V1-M015	BUS101，BUS102，BUS103			3×6	丹阳新明	HS4-T972-B009V1-M015					
…3	P/N:01-12506-00		PCB6 BOARD (BP)													
PCB 线路板																
….4		16-12506-00	双面印刷电路板	PCB(DOUBLE SIDE)	BINDDING POST BOARD	FR-4,1.6mm,红色,双面各2盎司	单板25.5mmX51mm,50拼1,拼板275mmX275mm,被叫做ASM5		1×6							
…..5		16-12550-00	双面印刷电路板	PCB(DOUBLE SIDE)	ASM5(50拼1)	FR-4,1.6mm,红色,双面各2盎司	拼板275mmX275mm		1/50×6	惠承		007	用至1120块（特指单板）为止			
…..5		16-12510-00	双面印刷电路板	PCB(DOUBLE SIDE)	ASM1(1拼1)	FR-4,1.6mm,红色,双面各2盎司	拼板300mmX129mm		1/2×6	惠承						
CAPACTIOR 电容																
….4		05-10213-03	高压瓷片电容	High Voltage Ceramic Capacitor	1000pF，5%，1KV	C601,C602		7.5mm	2×6	沂南同皓						
CONNECTORS 接插件																
….4		13-25004-02	接线模插　座	Terminal block	OQ04550091	J601,J602			2×6	ANYTEK						
….4		13-15004-00	接线模插　头	Terminal block	TJ04510391	J601,J602			2×6	ANYTEK		007				
….4		94-052002-1	扬声器连接端子标签	Label	18.5×4.5mm				2×6			007 011				
..2		78-005005-0	绝缘垫片	Insulated Cashion	SFAT686	Q123，Q124，Q125，Q126			4×6	BERGQUIST						
..2		70-054002-0	散热器	Heatsink	ALU 6063，BLACK				1×6	智信	HS4-R1250B009V1M006 B					
..2		66-005009-0	大功率管压块	TR CLAMPER					4×6	三马	HS4-C370-B009V1-M007					
..2		66-018005-0	热断器压块	Tem.Sw Clamp		温度开关			1x6	三马						
..2		61-223512-0	内六角圆柱头螺钉	Hex socket head screw	GB70-85 M3X12	2SA1943&2SC5200			4X6							
..2		61-023208-0	自攻螺钉	Self Tapping Screws	BTB3X8	2SA1837&2SC4793&KSC2690			6X6							
..2		61-023210-0	自攻螺钉	Self tapping screw	BTB3X10	温度开关压块(1)+整流桥(1)			2x6			007				
..2		61-023214-0	自攻螺钉	Self tapping screw	BTB3X14	PCB(4)			4x6			007 008				
..2		61-083106-0	自攻螺钉	Self tapping screw	STPW3X6	PCB			2x6							
..2		85-054001-0	间隔柱	3.5-6					4×6	康扬						
.1	P/N:01-12502-20 (C VERSION)		01-12502-10 (AH VERSION)		PCB2 BOARD (POWER SUPPLY)											
PCB 线路板																
..2		16-12502-01	双面印刷电路板	PCB(DOUBLE SIDE)	POWER SUPPLY board	FR-4,1.6mm,红色,双面各2盎司，VM2.0	单板410mmX75mm		1			014				
…3		16-12520-01	双面印刷电路板	PCB(DOUBLE SIDE)	ASM2(3拼1)	FR-4,1.6mm,红色,双面各2盎司，VM2.0	拼板410mmX240mm		1/3			014				
CONNECTORS 接插件																

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..2		13-22503-00	插座	HOUSING	3PIN2.54-C	P201B，P202B，P203B，P204B，P205B，P206B			6	郎诗德						
..2		13-21020-00	20芯扁平线缆插座	FFC SOCKET	1.0-11-20P	P207B			1	精实						
..2		13-23905-13	插座	HOUSING	5PIN3.96-C(拔去2,4脚)	P208B，P208C，P209B，P209C，P210B	BLKCON.156/VH/TM1SQB/W.355/3		5	格卢		007014	随变压器供货			
..2		32-26304-00	PCB焊接端子	JACK	KY250	P211B，P212B			2	郎诗德						
..2		32-26304-30	PCB焊接端子	JACK	PCFS2508	P213B			1	康扬						
..2		78-010002-0	热缩套管	HEAT SHRINKING TUBE	Φ20×35	R201			1	力拓新						
…3		78-000020-0	热缩套管	HEAT SHRINKING TUBE	Φ20				35mm	力拓新						
..2		07-70059-00	浪涌电流限制器	Inrush Current Limiter	0.5R030	R201	RAD/1.110X.180/LS.300/.047	7.5mm	1	AMETHERM						
FUSE 保险丝																
…2		20-12252-00	保险丝	FUSE	T2.5AL/250V(230V)	F201，F202，F203	T2.5AL/250V		3	力特	618 SERIES	014				
…2		20-12502-00	保险丝	FUSE	T5AL/250V(120V)	F201，F202，F203	T5AL/250V		3	力特	618 SERIES	014				
…2		20-20000-06	保险丝座	FUSE HOLDER	LS-PTF-78，不要盖子(CQ-200C)	F201，F202，F203	RAD/.1000X.400/LS.850/.066		3	乐声/功得						
CAPACTIOR 电容																
..2		25-22422-03	安规电容	High Voltage Ceramic Capacitor	0.22uF, 275V, ±5%	C201		15mm	1	法拉	MKP62					
METAL PARTS 金属件																
..2		67-054007-0	电源板支架1	POWERPCB-CONNECTOR Ⅰ	SECC-N4 T=1.0 黑色粉喷漆				2	南京耀亚公司	HS4-R1250B009V1M007					
…3		65-054007-0	电源板支架1白坯	POWERPCB-CONNECTOR Ⅰ	SECC-N4 T=1.0				2							
….4		81-054006-0	镀锌钢板	SECC	SECC-N4 1250×140×1.0				1/100×2							
..2		67-054008-0	电源板支架2	POWERPCB-CONNECTOR Ⅱ	SECC-N4 T=1.0 黑色粉喷漆				1	南京耀亚公司	HS4-R1250B009V1M008					
…3		65-054008-0	电源板支架2白坯	POWERPCB-CONNECTOR Ⅱ	SECC-N4 T=1.0				1							
….4		81-054006-0	镀锌钢板	SECC	SECC-N4 1250×140×1.0				1/88							
..2		61-023106-0	自攻螺钉	Self tapping screw	STB3X6	电源板支架1&电源板支架2			5							
.1	***P/N:01-12503-00***		***PCB3 BOARD (POWER LED)***													
PCB 线路板																
..2		16-12503-00	印刷电路板	PCB	POWER LED board	FR-4,1.6mm,红色,双面各2盎司	单板390mmX20mm		1							
…3		16-12530-00	印刷电路板	PCB	ASM3(11拼1)	FR-4,1.6mm,红色,双面各2盎司	拼板390mmX230mm		1/11							
TRANSISTORS 三极管																

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..2		33-50325-02	发光二极管	LED	φ3，双色，共阳	D301, D302, D303, D304, D305, D306	DUALLED/ANODE/D.200/LS.200/.039		6	华鼎/悦鼎						
..2		85-054002-0	LED间隔柱	LED SPACER	LED3×5	D301, D302, D303, D304, D305, D306			6	康扬		007				
CONNECTORS 接插件																
..2		13-21020-00	20芯扁平线缆插座	FFC SOCKET	1.0-11-20P	P301B			1	精实						
.1	***P/N:01-12504-00***			***PCB4 BOARD (BI)***												
PCB 线路板																
..2		16-12504-00	双面印刷电路板	PCB(DOUBLE SIDE)	BUS IN BOARD	FR-4,1.6mm,红色,单面2盎司	单板18mmX20mm,39拼1,和BO板拼在一起,拼板120mmX260mm,被叫做ASM4		1			007				
…3		16-12540-00	双面印刷电路板	PCB(DOUBLE SIDE)	39拼1,拼板120mmX260mm,ASM4	FR-4,1.6mm,红色,单面2盎司			1/78			007				
CONNECTORS 接插件																
..2		17-01002-02	同心插座	RCA	AV2-8.4-13,上白下红, 无接地片	J401	RCA2A		1	通达						
..2		14-12503-01	线排	CONNECTOR	3PIN2.54-A100B	P401A	BLKCON.100/VH/TM1SQS/W.300/3		1	郎诗德						
.1	***P/N:01-12505-00***			***PCB5 BOARD (BO)***												
PCB 线路板																
..2		16-12505-00	双面印刷电路板	PCB(DOUBLE SIDE)	BUS OUT BOARD	FR-4,1.6mm,红色,单面2盎司	单板18mmX20mm,39拼1,和BI板拼在一起,拼板120mmX260mm,被叫做ASM4		1			007				
…3		16-12540-00	双面印刷电路板	PCB(DOUBLE SIDE)	39拼1,拼板120mmX260mm,ASM4	FR-4,1.6mm,红色,单面2盎司			1/78			007				
元器件类1 （CONNECTORS 接插件）																
..2		17-01002-02	同心插座	RCA	AV2-8.4-13,上白下红, 无接地片	J501	RCA2A		1	通达						
..2		13-22503-00	插座	HOUSING	3PIN2.54-C	P501B	BLKCON.100/VH/TM1SQS/W.300/3		1	郎诗德						
MISC & Mechanical Parts																
MISC																
.1		18-12251-00	主变压器	TRANSFORMER	TD-120-0250D,要求配外径78mm内径10mm绝缘垫				3							
.1		15-16251-00	AH版电源线	AC CORD					AH:1	VOLEX						

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.1		15-10230-20	C版电源线	AC CORD	T973-C				C:1	VOLEX						
.1		or15-10230-21	C版电源线	AC CORD	3VT12-3GTJA					华银						
ACCESSORY 辅助材料																
.1		14-12520-00	20芯扁平线缆	FFC	20Pin,1.0间距,100mm,异面，105°				1	精实		007				
.1		14-12501-01	单芯线排	Connector Ribbon	一头端子:KST FDFD2-187(8), 一头端子：KST FDFD2-187(5), 线身:16AWG双重绝缘线兰色300V,105C 1672#, 线长60mm				1	郎诗德						
.1		14-12501-02	单芯线排	Connector Ribbon	一头端子:KST FDFD2-187(8), 一头端子：KST FDFD2-187(5), 线身:16AWG双重绝缘线兰色300V,105C 1672#, 线长80mm				1	郎诗德						
.1		14-12501-13	单芯线排	Connector Ribbon	一头端子:KST FDFD2-187(8), 一头端子：KST MDFN2-250, 线身:16AWG双重绝缘线兰色300V,105C 1672#, 线长280mm				1	郎诗德		014				
.1		14-12501-14	单芯线排	Connector Ribbon	一头端子:KST FDFD2-187(8), 一头端子：KST FDFD2-250, 线身:16AWG双重绝缘线白色300V,105C 1672#, 线长280mm				1	郎诗德		014				
.1		20-20000-03	保险丝座	FUSE HOLDER	HTB-32I（C版, AH版）				1	BUSSMAN						
.1		20-12103-20	保险丝	FUSE	T10AL/250V（C版）				C:1	BUSSMAN						
.1		20-12103-20	保险丝	FUSE	T10AL/250V（AH版）				AH:1	BUSSMAN		014				
.1		11-01101-03	电源开关	ROCKER SWITCH	RF-1003-BB2, 10A 250V, TV-5				1	荣丰						
.1		17-07003-01	AC Inlets	电源输入座	R-301(00)				1	富湾		007				
.1		14-86001-03	单芯线排	Connector Ribbon	一头端子:KST FDFD2-187(8), 一头端子：KST RNBL2-4, 线身:16AWG黄绿线300V,105C , 线长80mm				1							
.1		78-047002-0	热缩套管	HEAT SHRINKING TUBE	Φ22×25	电源开关			1			007				
..2		78-000220-0	热缩套管	HEAT SHRINKING TUBE	Φ22				25mm							
.1		78-054001-0	热缩套管	HEAT SHRINKING TUBE	Φ30×25	AC INLET			1			007				
..2		78-000300-0	热缩套管	HEAT SHRINKING TUBE	Φ30				25mm							

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层次	关键件	编号	中文	英文	规 格	位 号	封 装	脚 距	数量	生产厂家	生产厂家型号	ECN编号	备 注	易耗件	SEF状态	已确认部件
.1		78-010001-0	热缩套管	HEAT SHRINKING TUBE	Φ20×60	后背板保险丝座			1							
..2		78-000200-0	热缩套管	HEAT SHRINKING TUBE	Φ20				60mm							
.1		94-054002-0	接地标签	Grouding Label	φ10				1	汇达						
METAL PARTS 金属件																
.1		67-054001-0	顶盖	TOPCOVER	SECC-N4 T=1.2 黑色粉喷漆				1		HS4-R1250B009V1M004					
.1		67-054006-0	顶盖	TOPCOVER	SECC-N4 T=1.2 银色粉喷漆				1		HS4-R1250B009V1M004		银色系列订此货			
..2		65-054001-0	顶盖白坯	TOPCOVER	SECC-N4 T=1.2				1	南京耀亚公司	HS4-R1250B009V1M004					
…3		81-054001-0	镀锌钢板	SECC	SECC-N4 1250×2200×1.2				1/8							
.1		67-054002-0	前支架	FRONTPANEL	SECC-N4 T=1.2 黑色粉喷漆				1		HS4-R1250B009V1M001					
..2		65-054002-0	前支架白坯	FRONTPANEL	SECC-N4 T=1.2				1	南京耀亚公司	HS4-R1250B009V1M001					
…3		81-054002-0	镀锌钢板	SECC	SECC-N4 1250×480×1.2				1/7							
.1		67-054003-0	后背板(C版)	REARPANEL(C VERSION)	SECC-N4 T=1.2 黑色粉喷漆 丝印				1		HS4-R1250B009V1M003					
..2		80-054003-0	后背板喷漆	REARPANEL	SECC-N4 T=1.2 黑色粉喷漆				1		HS4-R1250B009V1M003					
...3		65-054003-0	后背板白坯	REARPANEL	SECC-N4 T=1.2				1	南京耀亚公司	HS4-R1250B009V1M003					
….4		81-054002-0	镀锌钢板	SECC	SECC-N4 1250×480×1.2				1/7							
.1		67-054005-1	后背板(AH版)	REARPANEL(AH VERSION)	SECC-N4 T=1.2 黑色粉喷漆 丝印(新)				1		HS4-R1250B009V1M003	014				
..2		80-054003-0	后背板喷漆	REARPANEL	SECC-N4 T=1.2 黑色粉喷漆				1		HS4-R1250B009V1M003					
...3		65-054003-0	后背板白坯	REARPANEL	SECC-N4 T=1.2				1	南京耀亚公司	HS4-R1250B009V1M003					
….4		81-054002-0	镀锌钢板	SECC	SECC-N4 1250×480×1.2				1/7							
.1		67-054004-0	底座	CHASSIS	SECC-N4 T=1.2 黑色粉喷漆				1		HS4-R1250B009V1M002					
..2		65-054004-0	底座白坯	CHASSIS	SECC-N4 T=1.2				1	南京耀亚公司	HS4-R1250B009V1M002					
…3		81-054003-0	镀锌钢板	SECC	SECC-N4 1250×620×1.2				1/3							
.1		67-054009-0	变压器支架	TRANSFOMERBRACKET	SECC-N4 T=1.6 黑色粉喷漆				3		HS4-R1250B009V1M009					
..2		65-054009-0	变压器支架白坯	TRANSFOMERBRACKET	SECC-N4 T=1.6				3	南京耀亚公司	HS4-R1250B009V1M009					
…3		81-054004-0	镀锌钢板	SECC	SECC-N4 1250×100×1.6				1/9×3							
…3		or81-054005-0	镀锌钢板	SECC	SECC-N4 1219×140×1.6				1/12×3							
.1		67-054010-0	铝面板	FASCIA	ALU 6063 黑色				1	东莞智信	HS4-R1250MCB009V2M005 C					
.1		67-054011-0	铝面板	FASCIA	ALU 6063 银色				1	东莞智信	HS4-R1250MCB009V2M005 C		银色系列订此货			
.1		70-054003-0	机器连接件	R1250RACK MOUNTING EAR	ALU 6063 黑色				2	东莞智信	HS4-R1250B009V1M010					
.1		70-052005-0	RUSSOUND标牌	LOGO BADGE		面板			1	RUSSOUND提供						
FASTENERS 紧固件																

汉桑（南京）电子有限公司
文件编号：HS4-R1250MC_B013VM1.7

R1250MC PARTS LIST

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日期：2005-5-16

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日期：

L	CP	P/N	Description/名称		Part Type	Designator	Footprint	Leg Spceing	Qty	Manufacturer	Manufacturer model no	ECN No.	Remark	Consumptive parts	SEF status	Confirmed parts
层次	关键件	编号	中文	英文	规 格	位 号	封 装	脚 距	数量	生产厂家	生产厂家型号	ECN编号	备 注	易耗件	SEF状态	已确认部件
.1		61-032506-5	机牙螺钉	Machine Screw	MP2.5X6	接线模块插座(OQ04550091)			4X6							
.1		61-023106-0	自攻螺钉	Self tapping screw	STB3X6	电源板支架1&电源板支架2(5)+后背板(7)+LEDPCB(5)			17			007 008				
.1		61-023106-0	自攻螺钉	Self tapping screw	STB3X6	机器连接件			10				作为附件发货			
.1		61-023106-0	自攻螺钉	Self tapping screw	STB3X6	顶盖			5							
.1		61-023106-1	自攻螺钉	Self tapping screw	STB3X6-Ni	顶盖			5				银色系列订此货			
.1		or61-023106-3	自攻螺钉	Self tapping screw	STB3X6-HCr	顶盖			5							
.1		61-023108-0	自攻螺钉	Self tapping screw	STB3X8	面板			4			007 008				
.1		61-073108-0	半沉头自攻螺钉	Self tapping screw	STO3X8	AC INNET			2							
.1		61-023208-0	自攻螺钉	Self tapping screw	BTB3X8	同心插座（RCA）& 耳机插座			2X6							
.1		61-023208-0	自攻螺钉	Self tapping screw	BTB3X8	同心插座（RCA）			2							
.1		61-023110-0	自攻螺钉	Self tapping screw	STB3X10	背板用脚			4							
.1		61-023210-0	自攻螺钉	Self tapping screw	BTB3X10	散热器			5X6							
.1		61-024106-0	自攻螺钉	Self tapping screw	STB4X6	变压器支架(6)+面板(6)+机脚(4)+接地片(1)			17							
.1		61-034506-0	机牙螺钉	Machine Screw	MP4X6	前支架			10							
.1		61-084108-0	自攻螺钉	Self tapping screw	STPW4X8	顶盖			6							
.1		61-084108-1	自攻螺钉	Self tapping screw	STPW4X8-HCr	顶盖			6				银色系列订此货			
.1		61-084108-2	自攻螺钉	Self tapping screw	STPW4X8-Ni	顶盖			6				银色系列订此货			
.1		64-110070-1	六角头螺栓(全螺纹)	Hexagon Head Bolt	GB5783-2000(全螺纹) M10X70，镀黑锌	主变压器			3			005 007				
.1		62-011002-1	螺母	NUT	GB6170-86 M10（黑色）	主变压器			6			005 007				
.1		63-011020-3	平垫圈φ10	φ10 FLAT WASHER	GB/T 97.1-2002 φ10 镀黑锌	主变压器			6			005 007				
.1		63-021030-0	弹垫φ10	φ10 SPRING WASHER	GB93 φ10（黑色）	主变压器			3							
.1		63-030410-0	内齿防松垫圈	M4		接地片			1							
.1		75-010003-0	INSLATION CELL	变压器绝缘子		主变压器			3							
.1		87-054001-0	机脚组件	FOOT ASSY												
..2		75-052001-0	机脚	FOOT					4	雨花鹏程						
..2		79-008001-0	foot pad	橡胶垫	MX-48HF				4	恒泰						
.1		75-052002-0	背板用脚	REAFOOT					4	南京欧瑞						
.1		84-001003-0	扎线扣	CABLE TIE	YJ-100				12							
		86-014001-0	Abhesive Bonded Fabric	无纺布	15x5×0.3mm				6			007				
PACKING Parts																
.1		88-054001-1	内箱	R1250Gift Box					1		HS4-R1250MCB009V1P002 B	015	有扣手孔			

汉桑（南京）电子有限公司
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L	CP	P/N	Description/名称		Part Type	Designator	Footprint	Leg Spceing	Qty	Manufacturer	Manufacturer model no.	ECN No.	Remark	Consumptive parts	SEF status	Confirmed parts
层次	关键件	编号	中文	英文	规 格	位 号	封 装	脚 距	数量	生产厂家	生产厂家型号	ECN编号	备 注	易耗件	SEF状态	已确认部件
.1		88-054002-2	外箱	R1250Shipping Box					1			013 017	有扣手孔无扣手护套			
.1		88-052003-0	BOX	附件纸箱	内径100×40×144, 三层, 黄色				1	华苏	HS4-R275HSB009V1P005	007				
.1		89-054001-0	EPE泡沫	POLYFOAM					2							
.1		90-008002-0	塑料袋	polybag	650X680mm				1							
.1		90-010001-0	环保袋	AC Cord Polybag	120×400mm				1							
.1		90-001002-0	说明书袋	Manu polybag	220X370				1							
.1		90-005002-2	EPE保护纸	EPE Fascia	H=133 W=233 L=535				1							
.1		90-054001-0	EPE Fascia	EPE纸	200X400				2	鹏程	HS4-R1250MCB009V1P004	007				
.1		90-054002-0	EPE Fascia	EPE纸	410X1200				1	鹏程		008				
.1		30-41250-02	说明书	Instruction Manual	V3.0				1			R235: 014 014				
.1		90-040002-0	自封塑料袋	polybag	60X90mm				1							
.1		94-054001-1	生产编号（带条形码）	Serial No.Lable	40X10mm				3			007 014				
.1		94-054003-1	生产编号（文字不带条形码）	Serial No.Lable	40X10mm				2			007 014				
.1		94-054004-0	Barcode Label	版本标签（银色 AH 版）	70×55				3			007				
.1		94-054005-0	Barcode Label	版本标签（银色 C版）	70×55				3			007				
Accessory		*辅助材料*														
.1		86-039005-0	黑胶	ADHESIVE PERMABOND BLACKMAGIC	737			单位:g	0.36	上海视域		007				

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L	CP	P/N	Description/名称		Part Type	Designator	Footprint	Leg Spceing	Qty	Manufacturer	Manufacturer model no.	ECN No.	Remark	Consumptive parts	SEF status	Confirmed parts
层次	关键件	编号	中文	英文	规　格	位　号	封　装	脚　距	数量	生产厂家	生产厂家型号	ECN编号	备　注	易耗件	SEF状态	已确认部件
.1		86-039006-0	催化剂	ADHESIVE PERMABOND BLACKMAGIC	737			单位:g	0.12	上海视域		007				
.1		86-000080-0	3M Double-side Adhesive Tape	3M双面胶	12mm宽			单位:m	0.35			008				
.1		86-000032-0	3M Single-side Adhesive Tape	耐高温纸胶3M	12mm, 244系列	波峰焊		单位:m	0.09×6							
.1		86-000033-0	3M Single-side Adhesive Tape	耐高温纸胶3M	10mm, 244系列			单位:m	0.12×6							
.1		86-000031-0	3M Single-side Adhesive Tape	耐高温纸胶3M	8mm, 244系列			单位:m	0.105×6							
.1		86-000030-0	3M Single-side Adhesive Tape	耐高温纸胶3M	5mm, 244系列			单位:m	0.05×6							
.1		86-000021-0	Solder Flux	助焊剂	W3	波锋焊		单位:ml	180							
		86-000019-0	Solder Bar	焊锡条	Sn63A	功放板		单位:g	106.4							
		86-000020-0	Solder	焊锡丝1.0	Sn60			单位:g	48.6							
						功放板			30							
						灯板			2							
						bus in/out板			2							
						输入板			1							
						连接板			13.6							
		86-000027-0	Solder	焊锡丝	φ1.2			单位:g	52							
						连接板/功放板			32							
						焊功率管引脚			20							
.1		86-000024-0	PCB Cleaning Water	洗板水		PCB		单位:g	15							
.1		86-000004-0	Yellow Glue	黄胶				单位:g	0.5							
.1		86-000002-0	Tape	透明胶	12mm宽			单位:m	0.44							
						说明书			0.07							
						电源线			0.07							
						EPE纸			0.2							
						塑料袋			0.1							
.1		86-000001-1	Binding Tape	封箱胶带	PP502（加厚型）72mm宽			单位:m	5.25	永大						
						内纸箱			2.6							
						外纸箱			2.65							

IEC IECEE CB SCHEME	Ref. Certif. No.
	SG-TN-01242

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE)METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product Produit	Power amplifier
Name and address of the applicant Nom et adresse du demandeur	Russound 5 Forbes Road, Newmarket New Hampshire 03857, USA
Name and address of the manufacturer Nom et adresse du fabricant	Russound, 5 Forbes Road, Newmarket, New Hampshire 03857, USA
Name and address of the factory Nom et adresse de l'usine	Hansong(Nanjing) Technology Ltd., 8 Kangping Road,Jiangning Econ. &, Techn. Development Zone, 211100 Nanjing, PEOPLE'S REPUBLIC OF CHINA
Rating and principal characteristics Valeurs nominales et caractéristiques principales	Rated voltage: 100-120/220-240V~ Rated frequency: 50-60Hz Rated input power: 1000W Degree of protection: Ordinary Protection class: I
Trade mark (if any) Marque de fabrique (si elle existe)	Russound
Model/type Ref. Ref. de type	R1250MC, R850MC
Additional information (if necessary) Information complémentaire (si nécessaire)	
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60065/A1:2005
as shown in the Test Report Ref. No. which form part of this certificate comme indiqué dans le Rapport d'essais numéro de référence qui constitue une partie de ce certificat	TÜV SÜD PSB Pte Ltd 083-1038101-000

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**

Date, 2010-07-26
CBS 10 07 55081 039

(XUE Yongjun Roy)

TÜV SÜD PSB Pte Ltd · 1 Science Park Drive · Singapore 118221

PSB Singapore

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

Attestation of Conformity

No. N8 10 07 55081 036

Holder of Certificate: **Russound**
5 Forbes Road, Newmarket
New Hampshire 03857
USA

Product: **Power amplifier**

This Attestation of Conformity is issued on a voluntary basis according to the Low Voltage Directive 2006/95/EC relating to electrical equipment designed for use within certain voltage limits. It confirms that the listed equipment complies with the principal protection requirements of the directive. It refers only to the particular sample submitted for testing and certification. See also notes overleaf.

Test report no.: 70230425002-01

439185

Date, 2010-07-21 (Roy Yongjun Xue)

CE After preparation of the necessary technical documentation as well as the EC conformity declaration the required CE marking can be affixed on the product. Other relevant directives have to be observed.

TÜV SÜD Product Service GmbH · Zertifizierstelle · Ridlerstraße 65 · 80339 München · Germany

TÜV®

A1 / 12.09

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

Attestation of Conformity
No. N8 10 07 55081 036

Model(s): R1250MC, R850MC

Trade name: Russound

Parameters:

Rated voltage:	100-120/220-240V~
Rated frequency:	50-60Hz
Rated input power:	1000W
Degree of protection:	Ordinary
Protection class:	I

Tested according to: EN 60065/A11:2008

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A1 / 12.09

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

Attestation of Conformity

No. D6 10 07 55081 035

Holder of Attestation:	**Russound** 5 Forbes Road, Newmarket New Hampshire 03857 USA
Product:	**Power amplifier**
Model(s):	**R1250MC, R850MC**
Parameters:	Rated voltage: 100-120/220-240V~ Rated Frequency: 50-60Hz Rated Power: 1000W Degree of protection: Ordinary Protection class: I Declared standby & off mode power: less than 0.5 W
Brand Name:	**Russound**
Tested according to:	PPP 11005:2009 Implementation Measure EC Regulation 1275/2008:2008-12-18 Amended by EC Regulation 278/2009:2009-04-06 Stage 2 EN 62301:2005

This Attestation of Conformity is issued on a voluntary basis and confirms that the listed product fulfils the generic ecodesign requirements as stated in Annex I in combination with the specific ecodesign requirements defined in the above mentioned Implementation Measure and as stated in Annex II of Council Directive 2009/125/EC for the setting of ecodesign requirements for energy-related products. This Certificate refers only to the sample submitted to TÜV SÜD PRODUCT SERVICE GMBH for testing and evaluation and to its technical documentation. See also notes overleaf.

Test report no.: 704111038205-01

Date, 2010-07-16 (Roy Yongjun Xue)

Page 1 of 1

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

Attestation of Compliance

No. E8N 10 07 55081 040

Holder of Certificate: **Russound**
5 Forbes Road, Newmarket
New Hampshire 03857
USA

Name of Object: **Power amplifier**

Model(s): **R1250MC, R850MC**

Description of Object:

Rated voltage:	220-240V AC
Rated frequency:	50-60Hz
Rated input power:	1000W
Protection class:	I

Tested according to:
EN 55013/A2:2006
EN 55020:2007
EN 61000-3-2/A2:2009
EN 61000-3-3:2008

This Attestation of Compliance is issued according to the Directive 2004/108/EC relating to electromagnetic compatibility on a voluntary basis. It confirms that the listed apparatus complies with all essential requirements of the EMC directive and applies only to the sample and its technical documentation submitted to TÜV SÜD Product Service GmbH for testing and certification. See also notes overleaf.

Test report no.: 4842009235100

Date, 2010-08-11 (Xiao Xu)

CE After preparation of the necessary technical documentation as well as the EC conformity declaration the required CE marking can be affixed on the product. Other relevant directives have to be observed.

TÜV SÜD Product Service GmbH · Zertifizierstelle · Ridlerstraße 65 · 80339 München · Germany

TÜV®

CSA INTERNATIONAL

Certificate of Compliance

Certificate: 1612712 **Master Contract:** 227897

Project: 1612712 **Date Issued:** August 12, 2005

Issued to: **Russound**
5 Forbes Road
Newmarket, NH 03857
U.S.A.

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US'

C US

Issued by: Sherman Bau, P. Eng.

Authorized by: Fred Mark, P. Eng.
Director, Far East Operations

PRODUCTS

CLASS 2224 51 - AUDIO AND VIDEO EQUIPMENT - Audio Equipment
CLASS 2224 81 - AUDIO AND VIDEO EQUIPMENT - Audio Equipment - CERTIFIED TO U.S. STANDARDS

Power Amplifer, cord connected, Class I grounded, Model R1250MC, rated 120V~, 60Hz, 7A, and Model R850MC, rated 120V~, 60Hz, 5A.

APPLICABLE REQUIREMENTS

CAN/CSA 60065-03 - Audio, Video and Similar Electronic Apparatus - Safety Requirements.
UL Std No. 60065-03 - Audio, Video and Similar Electronic Apparatus - Safety Requirements.

The 'C' and 'US' indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/UL Standards, for use in Canada and the U.S., respectively. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standar226486

CSA INTERNATIONAL

Supplement to Certificate of Compliance

Certificate: 1612712 **Master Contract:** 227897

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
1612712	August 12, 2005	Original Certification.